



1 CALIFORNIA STATE OIL, GAS & GEOTHERMAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
195 S Broadway, Suite 101 Orcutt, CA 93455-4655
Phone:(805) 937-7246 Fax:(805) 937-0673

No. T 316-0235

REPORT ON OPERATIONS

WATER DISPOSAL PROJECT
Monterey

Mr. Ben Oakley
ERG Operating Company, LLC (E0255)
6085 Cat Canyon Road
Santa Maria, CA 93454

Orcutt, California
September 21, 2016

Your operations at well "Los Alamos" 22, A.P.I. No. 083-00394, Sec. 36, T. 09N, R. 33W, SB B.&M., Cat Canyon field, in Santa Barbara County, were witnessed on 9/13/2016, by Tyson McKinney, a representative of the supervisor.

The operations were performed for the purpose of demonstrating that all of the injection fluid is confined to the approved zone.

DECISION: APPROVED

VIOLATION: NONE

TM/pd

Kenneth A. Harris Jr.
State Oil and Gas Supervisor

cc: Santa Barbara County

By

Patricia A. Abel, Coastal District Deputy

69

MECHANICAL INTEGRITY TEST (MIT)

Operator: ERG Operating Company LLC					Well: "Los Alamos" 22																																																																										
Sec. 36	T. 09N	R. 33W	B.&M. SB	API No.: 083-00394			Field: Cat Canyon																																																																								
County: Santa Barbara					Witnessed/Reviewed on: 9/13/2016																																																																										
Tyson McKinney , representative of the supervisor, was present from 0830 to 0950																																																																															
Also present were: Melvin Abdilla (Welaco - wireline tech); Steve Horner (ERG)																																																																															
Casing record of the well: Do Not Type:																																																																															
<table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">casing:</td> <td style="width: 15%;">10 3/4"</td> <td style="width: 15%;">32#</td> <td style="width: 15%;">0' - 4,500'</td> <td colspan="6"></td> </tr> <tr> <td></td> <td>6 5/8"</td> <td>24#</td> <td>4,429' - 5,804'</td> <td colspan="6"></td> </tr> <tr> <td colspan="10"> </td> </tr> <tr> <td>tbgs:</td> <td>3 1/2"</td> <td>9.3#</td> <td>0' - 4,365'</td> <td colspan="6"></td> </tr> <tr> <td colspan="10"> </td> </tr> <tr> <td>Pkr</td> <td></td> <td></td> <td>4,359' - 4,365'</td> <td colspan="6"></td> </tr> <tr> <td>Perfs</td> <td></td> <td>6 5/8"</td> <td>4,495' - 5,797'</td> <td colspan="6"></td> </tr> </table>										casing:	10 3/4"	32#	0' - 4,500'								6 5/8"	24#	4,429' - 5,804'																	tbgs:	3 1/2"	9.3#	0' - 4,365'																	Pkr			4,359' - 4,365'							Perfs		6 5/8"	4,495' - 5,797'						
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The MIT was performed for the purpose of T15, D1																																																																															
<input checked="" type="checkbox"/> The MIT is approved since it indicates that all of the injection fluid is confined to the formations below <u>4,500'</u> feet at this time.																																																																															
<input type="checkbox"/> The MIT is not approved due to the following reasons: (specify)																																																																															
CalWIMS ✓ UIC Tab ✓																																																																															

Well: "Los Alamos" 22		Date: 9/13/2016		Time: 0830 - 0950	
Observed rate: ~9,821 B/D		Meter rate: ~10,000 B/D		Fluid level: N/A feet	
Injection pressure: 0 psi		MASP:		Pick-up depth: 5,774' feet	
Initial annulus pressure: 0 psi		Pressure after bleed-off: 0 psi			
Casing vented during test (Y/N) Y		Survey company: Well Analysis Corporation (Welaco)			
SPINNER COUNTS					
DEPTH	COUNTS	RATE	DEPTH	COUNTS	RATE
TRACER CASING AND TUBING RATE CHECKS					
Interval		Time (sec.)	Rate (B/D)	Background log: 4,650' to 4,200'	
0' - 4,300'		394 sec	8,207	COMMENTS: Temp/CCL Log: 4,150' - 5,774' DO NOT TYPE: No meter on well, approximate rate reported by Steve Horner (ERG) based on pumps, higher rates up high in tubing may be the result of cascading flow, no evidence for leaks or upward migration. See also calculated arrival time consistent w/ rates of 8200 B/D	
4,440' - 4,490'		18.7 sec	8,114		
0' - 200'		13 sec	11,570		
0' - 500'		33 sec	11,394		
TOP PERFORATION CHECK					
Top perforation depth: 4,495'		Wait at: 4,300' for 0 seconds		Beads: (Y/N) Y	
Casing shoe at: 4,500'	WSO holes at: N/A		Arrival time: <i>Calculated</i> ~400 sec <i>Actual</i> 394 sec		
LOG FROM	TO	SLUG @	LOG FROM	TO	SLUG @
4,300'	4,570'	4,412' - 4,570'*	4,570'	4,250'	GONE
4,570'	4,250'	GONE			
4,250'	4,570'	GONE			
PACKER CHECK					
Packer at: 4,365'		Wait at: SEE ABOVE for _____ seconds		Beads: (Y/N) Y	
Tubing tail at: 4,365'		Tubing size: 3 1/2"		2nd Packer at: N/A	
				Mandrel: N/A	
LOG FROM	TO	SLUG @	LOG FROM	TO	SLUG @
SEE	ABOVE				
COMMENTS:					
DO NOT TYPE: Top perf and packer check performed simultaneously.					

67

**DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES
CHECK LIST - RECORDS RECEIVED AND WELL STATUS**

COMPANY ERG Operating Company LLC WELL NO "Los Alamos" 22
API NO. 083-00394 SEC. 36, T. 9N, R. 33W, S.B. B.&M.
COUNTY Santa Barbara FIELD Cat Canyon

<u>RECORDS RECEIVED</u>	<u>DATE</u>
Well Summary (Form OG100)	<u>10-14-13</u>
History (form OG103)	<u>10-14-13</u>
Directional Survey	<u>10-14-13</u>
Core Record and/or SWS	<u>10-14-13</u>
Other:	
Electric logs:	
Mud Log	<u>07-24-13</u>
Platform Express HRLA/SP/GR/MCFL/Density	
Neutron (Run 1)	<u>07-24-13</u>
Platform Express Array Induction/SP/GR/MCFL	
Density/Neutron (Run 1)	<u>07-24-13</u>
Platform Express HRLA/SP/GR/MCFL/Density	
Neutron (Run 2)	<u>08-08-13</u>
Platform Express Array Induction/SP/GR/MCFL	
Density/Neutron (Run 2)	<u>08-08-13</u>
Platform Express Array Induction/SP/GR/MCFL	
Neutron/Density/ADT	<u>08-08-13</u>

Clerical Check List

Form OGD121
 Location change (OG165)
 Elevation change (GD165)
 Final Letter (OG159)
 Release of Bond (OGD150)
 Abd _____ in WSS
 Notice of Records Due (OGD170)
 Request:

Scan Records

STATUS

WD - Active

(Date)

Engineer's Check List

☒ Summary, History, & Core Record
☒ Directional Survey
☒ Logs
☒ Operator's Name
☒ Signature
☒ Well Designation
☒ Location
☒ GPS Location Received
 Entered in Computer
☒ Notice
☒ "T" Reports
 Casing Record
☒ Plugs (Sfc. Plg Date)
 Final Sfc. Insp Date
☒ Production/Injection
 E Well on Prod., enter EDP
☒ Computer

Drlg Table-TD

(F: Annual Rept/Yr/Prelim Drlg Stat)

Redrill & Deepen Depths

(F: Annual Rept/Yr/Prelim Drlg Stat)

Idle Well Status Change

(F: Idle/Idle Wells 2000/Idle Wells Master)

WSS Code or Status Changes

Map Work: not needed

☒ Follow Up: to missing May '14

☒ Hold for: 11 11

Records Approved

CP 9/2012



SDI ERG FINAL REPORT



Company: ERG		Date: 7/16/2013		Time: 10:27:04		Page: 1	
Field: CAT CANYON		Co-ordinate(NE) Reference: Well: LA 22, Grid North		Vertical (TVD) Reference: LA 22 RD1 1163.0			
Site: SECTION 6		Section (VS) Reference: Well (0.00N,0.00E,135.00Azi)		Survey Calculation Method: Minimum Curvature		Db: Sybase	
Well: LA 22							
Wellpath: LA 22 RD1							

Survey:		Start Date:	
Company:		Engineer:	
Tool:		Tied-to:	

Field: CAT CANYON SANTA BARBARA COUNTY CALIFORNIA, USA		Map Zone: California, Zone V	
Map System: US State Plane Coordinate System 1983		Coordinate System: Well Centre	
Geo Datum: GRS 1980		Geomagnetic Model: IGRF2010	
Sys Datum: Mean Sea Level			

Site: SECTION 6 SEC. 6, T8N, R32W SANTA BARBARA COUNTY			
Site Position:	From: Map	Northing: 2121000.00 ft	Latitude: 34 47 56.649 N
		Eastng: 5876000.00 ft	Longitude: 120 17 15 135 W
Position Uncertainty:	0.00 ft		North Reference: Grid
Ground Level:	0.00 ft		Grid Convergence: -1.30 deg

Well: LA 22 SUR. N 2124396.60 E 5868701.30		Slot Name:	
Well Position:	+N/-S 3396.80 ft	Northing: 2124396.60 ft	Latitude: 34 48 28 814 N
	+E/-W -6298.70 ft	Eastng: 5868701.30 ft	Longitude: 120 18 31 582 W
Position Uncertainty:	0.00 ft		

Wellpath: LA 22 RD1		Drilled From: LA 22 OH	
Current Datum: LA 22 RD1		Tie-on Depth: 400.00 ft	
Magnetic Data: 5/25/2013		Above System Datum: Mean Sea Level	
Field Strength: 47396 nT		Declination: 12.97 deg	
Vertical Section: Depth From (TVD)		Mag Dip Angle: 59.09 deg	
	ft	+N/-S ft	+E/-W ft
	0.00	0.00	0.00
			Direction deg
			135.00

Survey													
Stu	CLen ft	MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	Buidl deg/100ft	Turn deg/100ft	ClsD ft	ClsA deg
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	374.00	374.00	2.94	133.56	373.84	9.59	-6.61	6.95	0.79	0.79	0.00	9.59	133.56
3	93.00	467.00	9.46	144.07	466.24	19.53	-14.45	13.17	7.09	7.01	11.30	19.55	137.65
4	31.00	498.00	9.70	140.31	496.81	24.65	-18.52	16.33	2.16	0.77	-12.13	24.70	138.59
5	31.00	529.00	8.11	137.15	527.44	29.43	-22.14	19.49	5.36	-5.13	-10.19	29.49	138.64
6	31.00	560.00	6.38	135.93	558.19	33.34	-24.98	22.17	5.60	-5.58	-3.94	33.40	138.40
7	31.00	591.00	4.37	140.29	589.05	36.24	-27.12	24.13	6.61	-6.48	14.06	36.30	138.35
8	31.00	622.00	3.60	143.15	619.98	38.38	-28.81	25.47	2.56	-2.48	9.23	38.45	138.53
9	93.00	715.00	3.54	143.65	712.80	44.11	-33.46	28.92	0.07	-0.06	0.54	44.23	139.16
10	94.00	809.00	3.57	132.72	806.62	49.90	-37.78	32.79	0.72	0.03	-11.63	50.03	139.05
11	94.00	903.00	3.32	128.86	900.45	55.53	-41.48	37.06	0.36	-0.27	-4.11	55.62	138.22
12	94.00	997.00	3.26	129.60	994.29	60.90	-44.89	41.24	0.08	-0.06	0.79	60.95	137.43
13	95.00	1092.00	3.58	131.61	1089.12	66.55	-48.58	45.54	0.36	0.34	2.12	66.58	136.85
14	95.00	1187.00	3.49	133.20	1183.94	72.40	-52.53	49.86	0.14	-0.09	1.67	72.43	136.49
15	94.00	1281.00	3.05	132.07	1277.79	77.76	-56.16	53.80	0.47	-0.47	-1.20	77.78	136.23
16	94.00	1375.00	2.63	126.61	1371.67	82.39	-59.12	57.39	0.53	-0.45	-5.61	82.40	135.85
17	94.00	1469.00	2.12	117.61	1465.59	86.18	-61.22	60.66	0.67	-0.54	-9.57	86.18	135.26
18	94.00	1563.00	2.01	122.51	1559.53	89.45	-62.91	63.59	0.22	-0.12	5.21	89.45	134.69
19	94.00	1657.00	1.18	135.04	1653.49	92.03	-64.48	65.67	0.95	-0.88	13.33	92.03	134.48
20	95.00	1752.00	0.74	127.31	1748.48	93.61	-65.54	66.85	0.48	-0.46	-8.14	93.62	134.44
21	95.00	1847.00	0.91	105.08	1843.47	94.88	-66.11	68.06	0.38	0.18	-23.40	94.89	134.17
22	95.00	1942.00	0.81	97.72	1938.46	96.06	-66.40	69.46	0.16	-0.11	-7.75	96.09	133.71
23	95.00	2037.00	0.41	121.15	2033.45	96.93	-66.66	70.41	0.49	-0.42	24.66	96.96	133.43
24	93.00	2130.00	0.24	46.82	2126.45	97.26	-66.70	70.84	0.45	-0.18	-79.92	97.30	133.28
25	95.00	2225.00	0.07	287.71	2221.45	97.21	-66.55	70.93	0.30	-0.18	-125.38	97.26	133.17
26	95.00	2320.00	0.35	301.77	2316.45	96.88	-66.38	70.63	0.30	0.29	14.60	96.93	133.22
27	95.00	2415.00	0.62	313.36	2411.45	96.08	-65.87	70.01	0.30	0.28	12.20	96.13	133.26
28	95.00	2510.00	1.05	326.91	2506.44	94.72	-64.79	69.16	0.50	0.45	14.26	94.77	133.13
29	94.00	2604.00	0.91	336.55	2600.42	93.18	-63.38	68.39	0.23	-0.15	10.26	93.25	132.82

RECEIVED

OCT 14 2013

DIVISION OF OIL, GAS AND
GEOTHERMAL RESOURCES

65



SDI ERG FINAL REPORT



Company: ERG
Field: CAT CANYON
Site: SECTION 6
Well: LA 22
Wellpath: LA 22 RD1

Date: 7/16/2013 Time: 10:27:04 Page: 2
Co-ordinate(NE) Reference: Well: LA 22, Grid North
Vertical (TVD) Reference: LA 22 RD1 1163.0
Section (VS) Reference: Well (0.00N,0.00E,135.00Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

Stn	CLen ft	MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	Bulld deg/100ft	Turn deg/100ft	ClsD ft	ClsA deg
30	95.00	2699.00	1.04	355.78	2695.41	91.83	-81.83	68.03	0.37	0.14	20.24	91.93	132.27
31	94.00	2793.00	1.24	37.76	2789.39	91.05	-60.18	68.59	0.89	0.21	44.66	91.25	131.26
32	95.00	2888.00	1.03	95.63	2884.38	91.58	-59.45	70.07	1.17	-0.22	60.92	91.89	130.31
33	94.00	2982.00	0.64	122.00	2978.37	92.75	-59.81	71.35	0.57	-0.41	28.05	93.10	129.97
34	95.00	3077.00	0.80	128.22	3073.36	93.92	-60.50	72.32	0.19	0.17	6.55	94.29	129.91
35	93.00	3170.00	0.81	125.20	3166.35	95.21	-61.28	73.37	0.05	0.01	-3.25	95.60	129.87
36	95.00	3265.00	0.63	110.51	3261.34	96.35	-61.85	74.41	0.27	-0.19	-15.46	96.76	129.73
37	93.00	3358.00	0.30	124.57	3354.34	97.06	-62.17	75.09	0.37	-0.35	15.12	97.49	129.62
38	95.00	3453.00	0.03	199.95	3449.34	97.31	-62.33	75.29	0.31	-0.28	79.35	97.74	129.62
39	95.00	3548.00	0.05	19.53	3544.34	97.30	-62.32	75.29	0.08	0.02	189.03	97.74	129.61
40	93.00	3641.00	0.12	162.93	3637.34	97.37	-62.37	75.33	0.18	0.08	154.19	97.80	129.62
41	95.00	3736.00	0.09	125.16	3732.34	97.53	-62.51	75.42	0.08	-0.03	-39.76	97.96	129.65
42	94.00	3830.00	0.36	71.90	3826.34	97.74	-62.46	75.76	0.33	0.29	-56.66	98.19	129.50
43	95.00	3925.00	0.95	50.57	3921.33	97.95	-61.87	76.66	0.66	0.62	-22.45	98.51	128.91
44	95.00	4020.00	1.79	71.58	4016.31	98.69	-60.90	78.67	1.02	0.88	22.12	99.49	127.74
45	94.00	4114.00	1.78	80.11	4110.26	100.19	-60.18	81.50	0.28	-0.01	9.07	101.32	126.44
46	94.00	4208.00	1.57	53.46	4204.22	101.22	-59.17	83.98	0.85	-0.22	-28.35	102.73	125.17
47	32.00	4240.00	1.92	52.90	4236.21	101.36	-58.58	84.76	1.10	1.09	-1.75	103.03	124.65
48	63.00	4303.00	2.30	51.25	4299.16	101.64	-57.16	86.58	0.61	0.60	-2.62	103.75	123.43
49	137.00	4440.00	2.94	40.91	4436.02	101.69	-52.78	91.03	0.58	0.47	-7.55	105.22	120.11
50	110.00	4550.00	5.50	31.70	4545.71	100.27	-46.16	95.65	2.40	2.33	-8.37	106.20	115.76
51	32.00	4582.00	6.68	30.62	4577.53	99.46	-43.25	97.40	3.70	3.69	-3.37	106.57	113.95
52	32.00	4614.00	6.64	20.86	4609.32	98.24	-39.92	99.01	3.54	-0.12	-30.50	106.75	111.96
53	31.00	4645.00	6.79	16.37	4640.11	96.63	-36.49	100.16	1.76	0.48	-14.48	106.60	110.02
54	32.00	4677.00	6.81	14.90	4671.88	94.77	-32.84	101.18	0.55	0.06	-4.59	106.38	107.98
55	32.00	4709.00	6.39	8.49	4703.67	92.76	-29.25	101.93	2.65	-1.31	-20.03	106.05	106.01
56	31.00	4740.00	5.10	5.28	4734.51	90.85	-26.17	102.32	4.29	-4.16	-10.35	105.61	104.35
57	31.00	4771.00	5.72	355.28	4765.38	88.79	-23.26	102.31	3.63	2.00	-32.26	104.93	102.81
58	31.00	4802.00	5.98	356.66	4796.21	86.41	-20.11	102.09	0.95	0.84	4.45	104.05	101.14
59	32.00	4834.00	4.40	359.41	4828.08	84.29	-17.21	101.98	5.00	-4.94	8.59	103.43	99.58
60	31.00	4865.00	4.04	18.66	4859.00	82.95	-14.99	102.32	4.69	-1.16	62.10	103.41	98.33
61	32.00	4897.00	3.17	15.41	4890.94	82.01	-13.07	102.92	2.79	-2.72	-10.16	103.74	97.24
62	31.00	4928.00	4.13	0.38	4921.87	80.81	-11.13	103.15	4.35	3.10	-48.48	103.75	96.16
63	31.00	4959.00	5.01	359.41	4952.77	79.06	-8.66	103.15	2.85	2.84	-3.13	103.51	94.80
64	31.00	4990.00	5.04	332.02	4983.66	76.79	-6.10	102.49	7.67	0.10	-88.35	102.67	93.41
65	32.00	5022.00	4.13	350.89	5015.56	74.51	-3.72	101.65	5.47	-2.84	58.97	101.72	92.10
66	63.00	5085.00	2.11	309.09	5078.47	71.52	-0.75	100.39	4.63	-3.21	-66.35	100.39	90.43
67	63.00	5148.00	1.93	188.03	5141.45	71.00	-1.07	99.34	5.58	-0.29	-192.16	99.35	90.62
68	63.00	5211.00	1.23	211.23	5204.43	71.80	-2.70	98.84	1.48	-1.11	36.83	98.88	91.56
69	63.00	5274.00	0.79	343.42	5267.42	71.58	-2.86	98.37	2.94	-0.70	209.83	98.41	91.66
70	63.00	5337.00	1.49	338.14	5330.41	70.44	-1.68	97.94	1.12	1.11	-8.38	97.95	90.98
71	63.00	5400.00	1.58	357.92	5393.39	69.05	-0.05	97.60	0.85	0.14	31.40	97.60	90.03
72	63.00	5463.00	2.37	6.06	5456.35	67.60	2.11	97.71	1.33	1.25	12.92	97.73	88.76
73	64.00	5527.00	1.93	15.23	5520.30	66.23	4.46	98.13	0.87	-0.69	14.33	98.23	87.40
74	62.00	5589.00	2.55	23.06	5582.26	65.20	6.74	98.95	1.11	1.00	12.63	99.18	86.10
75	63.00	5652.00	2.90	28.42	5645.18	64.22	9.43	100.25	0.69	0.56	8.51	100.70	84.63
76	63.00	5715.00	4.31	30.09	5708.06	63.16	12.88	102.20	2.24	2.24	2.65	103.01	82.82
77	29.00	5744.00	5.01	29.91	5736.96	62.55	14.92	103.38	2.41	2.41	-0.62	104.45	81.79
78	60.00	5804.00	5.01	29.91	5796.73	61.18	19.46	105.99	0.00	0.00	0.00	107.76	79.59
79	0.15	5804.15	0.00	135.00	5796.89	61.18	19.47	105.99	FmtErr	FmtErr	0.00	107.77	79.59

64

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NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

DIVISION OF OIL, GAS AND
GEOTHERMAL RESOURCES

WELL SUMMARY REPORT

API No. 04083003940100

Operator ERG Operating Company, LLC		Well Los Alamos 22 RD1				
Field (and Area, if applicable) Cat Canyon		County Santa Barbara	Sec. 36	T. 9N	R 33W	B.&M. SB
Location of well (Give surface location from property or section corner, street center line) 4806'S and 335'E of NW/4 of Sec. 36-T9N-R33W.					Elevation of ground above sea level: 1153'	
Lat./Long. in decimal degrees, to six decimal places, NAD 83 format. Lat: 34.8080163 Long: -120.3087341						
Was the well directionally drilled? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, show coordinates (from surface location) and true vertical depth at total depth. Bottom hole location is at 5797' TVD; 19' N and 106' E of surface location						
Commenced drilling (date) 6/29/2013	(1st hole) 5804'	Total depth (2nd)	(3rd)	Depth measurements taken from top of: <input type="checkbox"/> Derrick Floor <input type="checkbox"/> Rotary Table <input checked="" type="checkbox"/> Kelly Bushing		
Completed drilling (date) 7/13/2013				Which is 13.5' feet above ground.		
Commenced production/injection (date) 7/20/2013	Present effective depth 5804'			GEOLOGICAL MARKERS		
Production mode: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas lift	Junk? Describe:			DEPTH S1B 2558' S6 3278' MONTEREY 4260'		
Name of production/injection zone(s) Monterey				Formation and age at total depth Monterey	Base of fresh water	

	Clean Oil (bbl per day)	API Gravity (clean oil)	Percent Water (including emulsion)	Gas (Mcf per day)	Tubing Pressure	Casing Pressure
Initial Production	Injection					
Production After 30 days						


CASING AND CEMENTING RECORD (Present Hole)

Size of Casing (Inches API)	Top of Casing	Depth of Shoe	Weight of Casing	Grade and Type of Casing	New (N) or Used (U)	Size of Hole Drilled	Number of Sacks or Cubic Feet of Cement	Depth of Cementing (if through perforations)	Top(s) of Cement in Annulus
11.75"	Surface	348'	54#	J-55	N	15 5"	300 sx & 40 sx Top job		Surface
8.625"	Surface	4500'	32#	K-55 LTC	N	10-5/8	1145 cf Type III Lead & 191 cf Tail		Surface
6.625"	4429'	5804'	24#	K-55 LTC	N	7.875"			

PERFORATED CASING (Size, top, bottom, perforated intervals, size and spacing of perforations, and method.)
Pre Perforated Casing from 4495'-5797', 8 SPF, 0.5" hole.

Logs/surveys run? ☒ Yes ☐ No If yes, list type(s) and depth(s).
Ran AIT PlatformExpress/ ADT from 4490-343'. HRLA Platform Express from 5804'-4493'. SWC from 1805'-3154'.

In compliance with Sec. 3215, Division 3, of the *Public Resources Code*, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Name of person filing report Ben Oakley	Telephone Number 805-714-6973	Signature 	Date 10/8/2013
Address 6085 Cat Canyon Road		City/State Santa Maria/CA	Zip Code 93454
Individual to contact for technical questions: Steve Horner	Telephone Number 805-722-2422	E-Mail Address: shorner@ergresources.com	

OG100 (3/09)

SUBMIT IN DUPLICATE

63

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DIVISION OF OIL, GAS AND
GEOTHERMAL RESOURCESRESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES**HISTORY OF OIL OR GAS WELL**

Operator <u>ERG Operating Company, LLC</u>	Field <u>Cat Canyon</u>	County <u>Santa Barbara</u>
Well <u>Los Alamos 22 RD1</u>	Sec. <u>36</u>	T. <u>9N</u> R. <u>33w</u> SBB. & M.
A.P.I. No. <u>04083003940100</u>	Name <u>Ben Oakley</u>	Title <u>Agent</u>
Date <u>10/08/2013</u>	(Person submitting report)	(President, Secretary, or Agent)
Signature _____		
Address <u>6085 Cat Canyon Road, Santa Maria, California 93454</u>		Telephone Number <u>805-714-6973</u>

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment, with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, balling tests, and initial production data.

Date	<u>Abandonment of old wellbore</u>
5/31/2013	MIRU. UNLANDED TBG AND INSTALLED BOP AND WORK FLOOR.
6/3/2013	HELD BOP DRILL. TAGGED FILL W/ TBG AT 1910'. POOH W/ TBG. MADE UP 7" BRIDGE PLUG. RIH ON TBG. SET BRIDGE PLUG AT 1852'. GOT 2 BPM BREAK DOWN AT 500PSI. PULLED OUT STINGER. <u>MIXED AND PUMPED 28CF CLASS G W/ 35%SF DIS W/ 5.7BBLs. STABED BACK IN AND PUMPED 5BBLs H2O. TOTAL DISPLACED 10.7 SQUEEZED 28 CF AWAY AT 600PSI 1.5 BPM THEN STUNG OUT. MIXED AND PUMPED 45CF CLASS G W/ 35%SF 1850' TO ESTIMATED TOC AT 1640'. WITNESSED BY JON IVERSON OF DOGGR. POOH W/ TBG. LAID DOWN RUN TOOLS. RIH W/ 5STDS 27/8" TBG KILL STRING.</u>
6/4/2013	RIH W/ TBG AND TAGGED FIRM CMT AT 1660' THEN PUMPED 28BBLs INERT MUD FLUID MIN 72 LB DENSITY 25 LB SHEAR FROM 1660' TO 1200'. WITNESSED BY CHRISTI PROSKOW OF DOGGR. PRESSURE TESTED CSG 300PSI HELD 5 MINS GOOD. POOH W/ TBG. MIRU MMI WIRE LINE SERVICE. RIH W/ 2' SHOGUN TO 1100'. RIH W/ TBG TO 1205'. <u>MIXED AND PUMPED 140CF CLASS G W/ 35%SF POOH W/ TBG. DOWN SQUEEZE W/ 4.5BBLs H2O. 150 PSI CLOSE IN PRESSURE ESTIMATED TOC 700'. WITNESSED BY SHANE EDMUNDS FROM DOGGR.</u>
6/5/2013	HELD BOP DRILL. RIH W/ TBG AND TAGGED FIRM CMT AT 930' THEN MUD 930' TO 445'. WITNESSED BY JANEL CHAMBERLIN OF DOGGR. THEN CUT CSG AT 443', 330', 210', AND 105'. MIRU CSG JACKS. WORKED STUCK CSG UP 3'. CELLER FLOOR BROKE OUT. SECURED RIG.
6/6/2013	BROKE OUT CONCRETE ON CELLER FLOOR. DUG DOWN FOUND CONDUCTOR THEN W/ CSG JACK <u>RECOVERED 328' 7" CSG.</u>
6/7/2013	CONTINUED WORKING ON STUCK CSG AND <u>RECOVERED 438' 7" CSG.</u> LAID DOWN 12 4-3/4" DRILL COLLARS. RIGGED DOWN CASING JACKS. SECURED RIG.
6/10/2013	RIH W/ TBG TO 485' THEN MIXED AND PUMPED 260CF CLASS G W/ 35% SF TO <u>SURFACE.</u> POLISHED PLUG OFF AT 30'. COVERED WELL BORE W/ STEEL PLATE.

102

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES
HISTORY OF OIL OR GAS WELL

6/29/2013

Redrill Operations

MIRU Key Rig #48 on LA 22-RD1 in Section 36-T9N-R33W SBB&M, Santa Barbara County, CA. Lat: 34.808016 Long: -120.308734. GL = 1153', KB + 13.5', RKB = 1166.5'. NU 13" Class IIA 2M BOPE w/ 6" Diverter on 13" x 16" Starter Flange, start operations @ 0900 hrs 6/29/13. Changed out drive line. MU 10.625" MT bit & D-tools. RIH & tagged TOC @ 40', cleaned out hard cmt to 140'. Contaminated mud locked mud motor. Changed f/ spud mud to water from day tank. Treated spud mud in pits. Cleaned out hard cmt f/ 140' to 353'. Circulate hole clean. POOH, MU 2nd stab, scribed in hole to 353'. Directionally drld (time-drld) 10.625" hole f/ 353' to 445' w/ full returns.

6/30/2013

Directionally drld 10.625" hole f/ 465' to 495' w/ full returns. Trip for PDC bit, RIH to 350'. Dumped & cleaned pit (cement-contaminated), built volume f/ storage, conditioned. RIH to DTD 495', directionally drld 10.625" hole f/ 495' to 1435' w/ full returns. Circulate hole clean. Wiper trip to 340' to DTD 1435'. Directionally drld 10.625" hole f/ 1435' to 1750' w/ full returns.

7/1/2013

Directionally drld 10.625" hole f/ 1750' to 1949' w/ full returns. Mud temp 150 F. Circulate hole clean. Trip for MT bit. POOH slowly - hot mud. RIH to DTD 1949'. Circulate & cond. Directionally drld 10.625" hole f/ 1949' to 2550' w/ full returns. RU mud-cooler.

7/2/2013

Directionally drld 10.625" hole f/ 2550' to 2727' w/ full returns. Circulate hole clean. Trip for PDC. Tight hole (40K over). RIH to DTD 2727' OK. Circulate hole clean. Directionally drld 10.625" hole f/ 2727' to 2916' w/ full returns. Circulate & condition mud. Directionally drld 10.625" hole f/ 2916' to 3042' w/ full returns. Circulate hole clean. Short wiper trip to 2404' to DTD 3042'. Directionally drld 10.625" hole f/ 3042' to 3250' w/ full returns.

7/3/2013

Directionally drld 10.625" hole f/ 3230' to 3418' w/ full returns. Circulate hole clean. Long wiper trip to 300' to DTD 3418'. Circulate hole clean. Directionally drld 10.625" hole f/ 3418' to 4170' w/ full returns.

7/4/2013

Wiper trip f/ DTD 4174' to 3500' to DTD 4174'. Circulate hole clean. Directionally drld 10.625" hole f/ 4174' to TD 4500' w/ full returns. Circulate hole clean. POOH LD D-tools. Slipped & cut 110' DL. RIH w/ MT bit to TD 4500'. Circulate hole clean. POOH (slowly 15 stds) for e-logs. HSM Schlumberger, RU WL, RIH w/ e-tools to TD 4500' & began logging well.

7/5/2013

SLB ran Platform Express / AI / SP / GR / MCFL / Neutron Density / ADT e-logs f/ 4490' to 353'. RIH w/ SW gun & took 28 SW cores f/ 3154' to 1805', 27 recovered w/ 1 misfire. RD WL. RIH w/ 10.625" wiper assembly & made wiper trip to TD 4500'. Circulate & condition hole clean. POOH. HSM West Coast, RU tongs. Load casing on pipe racks (tight location). Started RIH w/ 5 jts 8.625" csg. Power tongs broke. Wait on replacement power tongs. Resumed RIH w/ 45 more jts 8.625" 32# K-55 HC/LTC csg (out of 107 jts).

4d

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DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

HISTORY OF OIL OR GAS WELL

- 7/6/2013 Finished RIH (lost Circulate @ 1300') w/ 107 jts 8.625" 32# K-55 HC LTC csg w/ shoe @ 4500' & FC @ 4555'. RD tongs. MIRU vac trucks & cmt trucks on tight location. HSM BJ, pumped 200 bbls mud w/ LCM ahead of dropping bottom plug & testing lines w/ 4300 psi. Pumped 30 bbls mud clean & 16 bbls FW ahead of 204 bbls (408 sx - 1145 cf) Type III lead cmt cont'g 35% silica flour + 10% Spherlite + 8% gypsum + 0.75% CD-32 dispersant + 0.75% sodium metasilicate + 8 #/sk Kol-Seal + 0.25 #/sk Cello-flake + 0.01 gps FP-6L anti-foam @ 12.5 ppg & 2.81 cf/sk yield followed by 34 bbls (104 sx - 191 cf) Type III tail cmt cont'g 35% silica flour + 0.3% CD-32 dispersant + 0.2% R-3 retardant + 0.25 #/sk Cello-flake + 0.01 gps FP-6L anti-foam @ 14.5 ppg & 1.84 cf/sk yield. Dropped top plug & displaced csg w/ 265 bbls FW @ 7 bpm. Bumped plug w/ 1400 psi, floats held. No Circulate while cmtg, no cmt returns to surface. CIP 1600 hrs 7/6/13. WOC. Slacked off csg, ND BOPE. Unscrewed landing jt, Lifted & set out BOPE. Cut 11.75" starter flange, cut & dressed 8.625" csg. Welded on 8.625" SOW x 11" 3M WH. NU mud-cross & fabricated steel lines to choke manifold.
- 7/7/2013 Fabricate steel choke & kill lines f/ mud-X to choke manifold. Loaded & MU & scribed D-tools on 7.875" PDC, RIH to 4458', function tested BOPE. DOGGR (Christie) waived witness. Regen motor. Pressure tested csg 1000 psi/10 min - OK. Cleaned out insert @ 4458', cmt & shoe @ 4500' w/ FW. Circulate clean. Mixed 3% KCL/GeoZan, changed hole over. Directionally drld 7.875" hole f/ 4500' to 4736' w/ full returns. Circulate hole clean. Directionally drld 7.875" hole f/ 4736' to 4957' w/ full returns.
- 7/8/2013 Directionally drld 7.875" hole f/ 4957' to 5050' w/ full returns. Circulate hole clean. Wiper trip to 4500' to DTD 5050' (pulled 40K over, reamed singles back to DTD). Directionally drld 7.875" hole f/ 5050' to 5114' w/ full returns. Pulled to shoe @ 4500'. Re-gen motor. RIH to DTD 5114'. Directionally drld 7.875" hole f/ 5114' to 5365' w/ full returns. Wiper trip to 4500' to DTD 5365'. Directionally drld 7.875" hole f/ 5365' to 5480' w/ full returns.
- 7/9/2013 Directionally drld 7.875" hole f/ 5460' to 5470' w/ 70% returns. Pit volume down, 50 bbls loss, built volume, condition mud w/ 4 sx MagmaFiber LCM. Directionally drld 7.875" hole f/ 5470' to 5475' w/ full returns. Conditioned mud, LCM blanked shakers. Directionally drld 7.875" hole f/ 5475' to 5542' w/ full returns. Circulate hole clean. Wiper trip to 4500' to DTD 5542'. Directionally drld 7.875" hole f/ 5542' to 5594' w/ full returns. Bit stopped drilling. Trip for bit check. Bit 4 DBR, OD 6.5". RIH to 5492', reamed f/ 5492' to DTD 5594'. Conditioned mud, built volume. Directionally drld 7.875" hole f/ 5594' to TD 5804' w/ 70% returns.
- 7/10/2013 Circulate and condition mud. POH and lay down directional tools. Make up slick BHA, and RIH to condition mud for logs. Circulate and condition mud. Short trip to shoe at 4500'. POH for logs. HSM with Schlumberger, rig up and run logs, first run with AIT triple combo gave erratic resistivity readings, attempt second run with same result, rig down loggers. RIH to wipe hole while waiting on back up logging tool.
- 7/11/2013 RIH to Circulate and condition mud prior to logs. Circulate and condition 3% KCL mud. POH for logging tools. HSM with Schlumberger and crew, run HRLA triple combo log 4493-5804', rig down loggers. RIH to Circulate and condition mud prior to running

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DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

HISTORY OF OIL OR GAS WELL

- 7/11/2013
Con't
liner. Circulate clean. POH lay down drill collars. HSM with West Coast casing, Pan Pacific, and crew, spot hydro crane, tongs, and off load truck on small. location, re-set pipe racks, offload liner, and tubing. Rig up and run 33 jts., 1350', of 6.625" 24#, K-55, 8HPF, 1/2" slots.
- 7/12/2013
Rig up and run 42 jts. Of 2 7/8" EUE 8 rd. tubing string inside 6.625' 24#, K-55, LTC, roundhole liner. Make up liner hanger, SCA, setting tools, and TBR, rig down tongs and prepare floor to RIH on drill pipe. RIH with liner, tubing string and liner setting tools to 5804' tag bottom. Circulate and pump bleach breaker. Change over the annulus from 3% KCL to lease water, set 6.625", 24 #, K-55, LTC roundhole liner at 5804', pre-perforated 4495-5797' with 8x1/2" HPF, top of blank, 4453, top of hanger, 4448', top of SCA, 4446', top of setting collar at 4439', top of the tieback receptacle, 4429'. Unsting from liner and continue to change over the inside of the liner from 3% KCL to lease water. Rig up to lay down drill pipe, POH laying down Heavy weight drill pipe, drill pipe, and tubing with hydro-crane. Rig down Class II A BOPE. Install well cap, and secure well. Clean out mud pits, and release rig at 06:00 on 07/13/2013.
- 7/16/2013
MIRU put out marsh anchors, bleed down casing, M/U 8-5/8" scapper, bumper sub, 3-1/2" box x 2-7/8" box x 2-7/8" pin x 2-7/8" 8rd box, 2-7/8" 8rd x 3-1/2" X/O, 10' x 3-1/2" pup sub, N/D 11"5k well head unland single hanger, RIH w/ tool, set slips, strip over 11"5k x 7" X/O spool, w/ 7" BOP, land & N/U, R/U work floor & Tbg Equip, strap Tbg, P/U & RIH drifting w/ (135) jnts of 3-1/2" Tbg, stack out @ (4195.86) liner top @ (4429') attempt to work scapper down, no success POOH w/ (10) Jnts of 3-1/2" Tbg. secure well & rig.
- 7/17/2013
Service rig & Equip, bleed down Tbg & casing, open up well, RIH w/ (10) Jnts of 3-1/2" Tbg P/U (1) Jnt of 3-1/2" Tbg, work scapper up & down @ (4195') success, scapper broke through hard spot P/U & RIH drifting w/ (7) Jnts of 3-1/2" Tbg tagged top of liner @ (4429') POOH & L/D (2) Jnts of 3-1/2" Tbg continue to POOH and stand back, (140) Jnts of 3-1/2" Tbg, strip off BOP, & L/D (1) 10' pup sub, w/ bumper sub & 8-5/8" AW scapper, M/U (1) 10' pup sub, (1) 8-5/8" Lock Set Packer w/ 3-1/2" Bell collar, RIH strip over BOP & R/U working floor, RIH w/ (140) Jnts of 3-1/2" Tbg, strip off BOP, M/U 8" DBB hanger, w/ F/N P/U & M/U (1) Jnt of 3-1/2" Tbg w/ TIW valve, to DBB hanger, B/O bonet from mandrel, lower string attempt to set packer w/ Tbg tongs, success pull over string weight @ 22k lower string & pack off elements, pull up & M/U DBB bonet to mandrel, attempt to fill casing w/ (200)Bbls of water for pressure test w/ high pressure pump pressure test @ (1300)psi good,(note packer was set by packer service hand) secure well & rig.
- 7/18/2013
Bleed off Tbg, B/O pup sub w/ TIW valve, N/U well head flange, drop guide wires. Pressure test 8-5/8" casing and packer to 1200 psi. Christi Proskow from the DOGGR witnessed the test. RDMO. Clean location.
- 7/20/2013
Pumped 6300 gals 15% HCl and 12600 gals 12-3 mud acid down 1.25" CT and washed perms between 5200-5800'. Displaced treatment with 100 bbls lease water down CT-tubing annulus at 4000 BPD and 900 psi. Place well on injection.



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DIVISION OF OIL, GAS AND
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Petroleum Services

Sidewall Core Analysis

ERG Operating Company, LLC

Los Alamos 22-RD1 Well

**Cat Canyon Field
Santa Barbara County, California**

FINAL REPORT

August 13, 2013

CL File: 57111-213330ER

Performed by:
Core Laboratories LP
3437 Landco Drive
Bakersfield, California 93308
(661) 325-5657

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgment of Core Laboratories. Core Laboratories assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations or profitability, however, of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever.

58



Petroleum Services Division
3437 Landco Dr.
Bakersfield, California 93308
Tel. 661-325-5657
Fax: 661-325-5808
www.corelab.com

August 13, 2013

Tom Skinner
ERG Operating Company, LLC
6085 Cat Canyon Road
Santa Maria, CA 93454

Subject: Sidewall Core Analysis
File No.: 57111-213330ER

Dear Mr. Skinner:

Enclosed are final data for 27 percussion sidewall samples submitted to our laboratory from well Los Alamos 22-RD1, Cat Canyon Field, Santa Barbara County, CA.

Porosity, permeability and saturation (PKS) determinations, along with white and ultraviolet light photographs, were performed on each sample where there was suitable recovery. Basic procedures used for this project are documented on the following pages for reference.

Thank you for this opportunity to be of service to ERG Operating Company, LLC. Please do not hesitate to contact us at (661-325-5657) if you have any questions regarding these results or if we can be of any additional service.

Sincerely,
Core Laboratories

Gil Casabar
Senior Group Leader

Distribution: 1 original report, 1 CD copy: Addressee

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Petroleum Services Division
3437 Landco Dr.
Bakersfield, California 93308
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Fax: 661-325-5806
www.corelab.com

Basic Test Procedures ⁽¹⁾

Core Analysis

- Remove visible drilling mud contamination from sidewall sample.
- Expose a fresh sample surface and photograph (if requested) under white and ultraviolet (UV) lighting.
- Retain endtrim for future analysis.
- Record lithological description.
- Package samples, if required, using nickel foil and end screens.
- Seat sleeve at depth - 100psi (750psi maximum).
- Remove water by Dean Stark extraction using toluene. Summation of fluids method used for samples <0.5" long or irregular shaped.
- Record stabilized produced water volume.
- Leach remaining oil and salts by Soxhlet extraction using an 80/20 mixture of methylene chloride/methanol.
- Dry at 235 °F to stable weight (minimum of 24 hours).
- Cool to ambient temperature in dessicator to prevent moisture accumulation.
- Record stable dry weight.
- Determine grain volume and grain density by helium expansion (Boyle's Law).
- Determine helium (Boyle's Law) pore volume at 250psi confining pressure.
- Determine steady-state permeability to air at 250psi confining pressure. Empirical method used for samples <0.5" long or irregular shaped.

Core Analysis

(Summation)

- Remove visible drilling mud contamination from sidewall sample.
- Expose a fresh sample surface and photograph (if requested) under white and ultraviolet (UV) lighting.
- Record lithological description.
- Determine Air Permeability (Empirical) for sample.
- Cut end-clip from sample for Summation of Fluids analysis.
- Measure Bulk Volume by mercury displacement.
- Place sample material into test equipment.
- Heat samples at 350 °F for approximately 30 minutes and record initial water values.
- Increase retort temperature to 1200 °F
- Centrifuge tubes to insure water-oil separation.
- Measure final fluid levels and calculate saturation percentages.

(1) See Core Analysis Procedures page for specific methods used.

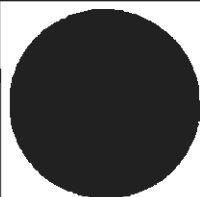
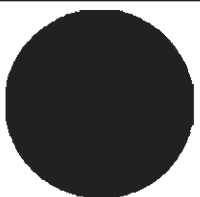
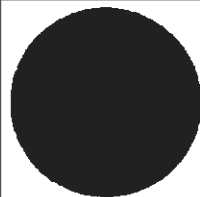
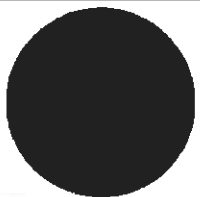
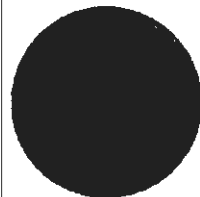
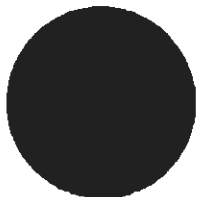

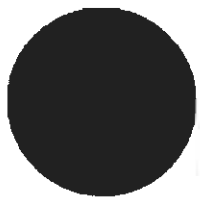


Company: ERG Operating Company, LLC
Well : Los Alamos 22-RD1
Field: Cat Canyon

Location: Sec. 36-9N-33W
Elevation: 1167' K.B.
Drlg Fluid: LSND

File No.: 57111-213330ER
API No.: 04-083-00394-01
Date: 8/13/2013

Sidewall Core Analysis Results

Core Images		Sample Number	Depth ft	Rec in	Perm. Kair md	Porosity %	Fluid Saturation				Grain Den g/cc	Sample Wt. g	Method
White Light	UV Light						Oil %	Water %	O/W Ratio	Total %			
		1	1805.0	1.2	819.7	33.8	52.6	46.6	1.13	99.2	2.60	25.6	1
													
Sd dbrn vf-fgr sslty-slty smica d stn vdglld flor													
		2	2854.0	1.0	16.4	23.4	15.6	78.0	0.20	93.6	2.61	26.8	1
													
Sd lbrn-gy vf-fgr vslty cly msp stn vdglld flor													
		3	2860.0	0.6	16.2	29.5	10.5	79.2	0.13	89.7	2.62	15.7	1
													
Sd lbrn-gy vf-fgr vslty cly msp stn vdglld flor													
		4	2932.0	0.7	16.0	23.8	17.0	59.2	0.29	76.2	2.63	25.4	1
													
Sd brn-gy vf-fgr vslty scly calc msp stn dgld-gld flor													

89


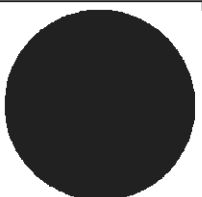
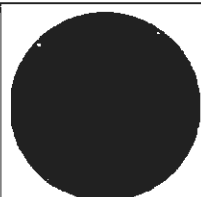
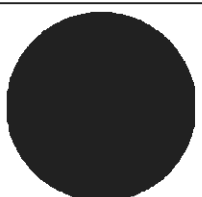

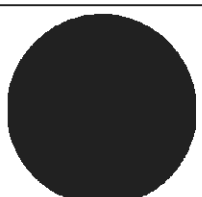

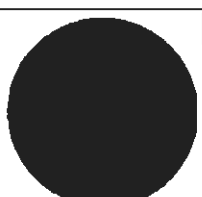


Company: ERG Operating Company, LLC
Well : Los Alamos 22-RD1
Field: Cat Canyon

Location: Sec. 36-9N-33W
Elevation: 1167' K.B.
Drlg Fluid: LSND

File No.: 57111-213330ER
API No.: 04-083-00394-01
Date: 8/13/2013

Sidewall Core Analysis Results

Core Images		Sample Number	Depth ft	Rec in	Perm. Kair md	Porosity %	Fluid Saturation				Grain Den g/cc	Sample Wt. g	Method
White Light	UV Light						Oil %	Water %	O/W Ratio	Total %			
		5	2934.0	0.7	7.1	24.7	21.0	59.6	0.35	80.6	2.61	22.1	1
		Sd brn-gy vfgr vslty scly msp stn vdgl d flor											
		6	2936.0	0.6	7.7	24.4	23.5	65.0	0.36	88.5	2.61	21.0	1
		Sd brn-gy vfgr vslty scly msp stn dgld-vdgl d flor											
		7	2974.0	0.7	43.5	24.3	6.5	72.6	0.09	79.1	2.63	24.8	1
		Sd lbrn-gy vf-fgr vslty cly lams mstrk stn dgld-gld flor											
		8	2975.0	1.0	113.6	28.7	23.7	49.9	0.48	73.7	2.63	26.6	1
		Sd brn vf-fgr slty-vslty m stn vdgl d flor											

42

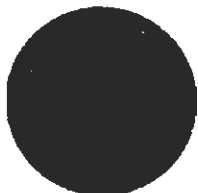
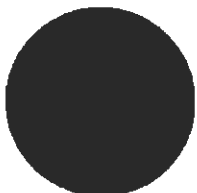
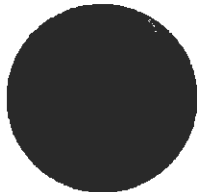
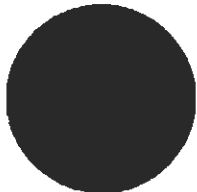

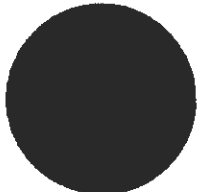


Company: ERG Operating Company, LLC
 Well : Los Alamos 22-RD1
 Field: Cat Canyon

Location: Sec. 36-9N-33W
 Elevation: 1167' K.B.
 Drlg Fluid: LSND

File No.: 57111-213330ER
 API No.: 04-083-00394-01
 Date: 8/13/2013

Sidewall Core Analysis Results

Core Images		Sample Number	Depth ft	Rec in	Perm. Kair md	Porosity %	Fluid Saturation				Grain Den g/cc	Sample Wt. g	Method
White Light	UV Light						Oil %	Water %	O/W Ratio	Total %			
		9	2976.0	0.5	128.0	29.2	24.4	44.8	0.55	69.3	2.63	17.3	1
		Sd brn vf-fgr slty-vslty m stn vdglld flr											
		10	2977.0	0.6	102.3	29.3	24.0	45.6	0.53	69.6	2.61	20.1	1
		Sd brn vf-fgr slty-vslty m-d stn vdglld flr											
		11	2978.0	0.6	213.1	32.1	22.3	46.9	0.48	69.2	2.62	20.1	1
		Sd brn vf-fgr slty msp stn vdglld flr											

2979.0

No Sample

53



Company: ERG Operating Company, LLC
Well : Los Alamos 22-RD1
Field: Cat Canyon

Location: Sec. 36-9N-33W
Elevation: 1167' K.B.
Drlg Fluid: LSND

File No.: 57111-213330ER
API No.: 04-083-00394-01
Date: 8/13/2013

Sidewall Core Analysis Results

Core Images		Sample Number	Depth ft	Rec in	Perm. Kair md	Porosity %	Fluid Saturation				Grain Den g/cc	Sample Wt g	Method
White Light	UV Light						Oil %	Water %	O/W Ratio	Total %			
		12	2980.0	0.6	228.1	31.1	26.0	42.0	0.62	67.9	2.62	16.9	1
		Sd brn vf-fgr slty m-d stn vdglld flor											
		13	2981.0	0.6	35.8	26.5	27.0	53.6	0.50	80.5	2.62	21.2	1
		Sd brn vf-fgr vslty scly m-d stn vdglld flor											
		14	2982.0	0.5	51.0	29.5	19.6	54.1	0.36	73.7	2.62	19.7	1
		Sd brn-gy vf-fgr vslty msp stn vdglld flor											
		15	2984.0	0.4	47.6	28.6	16.0	56.0	0.29	72.0	2.62	18.2	1
		Sd brn vf-fgr vslty m stn vdglld flor											

57


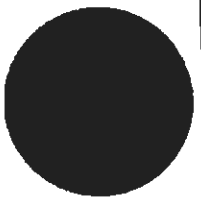

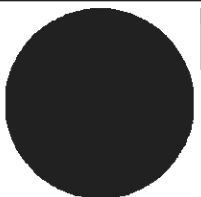

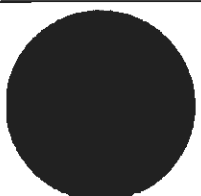
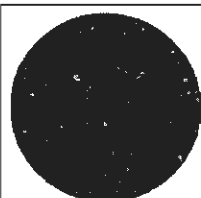
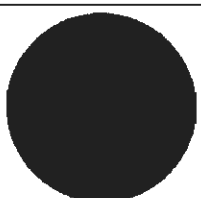


Company: ERG Operating Company, LLC
Well : Los Alamos 22-RD1
Field: Cat Canyon

Location: Sec. 36-9N-33W
Elevation: 1167' K.B.
Drig Fluid: LSND

File No.: 57111-213330ER
API No.: 04-083-00394-01
Date: 8/13/2013

Sidewall Core Analysis Results

Core Images		Sample Number	Depth ft	Rec in	Perm. Kair md	Porosity %	Fluid Saturation				Grain Den g/cc	Sample Wt. g	Method
White Light	UV Light						Oil %	Water %	O/W Ratio	Total %			
		16	2986.0	0.6	26.7	25.7	5.1	71.7	0.07	76.8	2.63	19.7	1
		Sd lbrn-gy vf-fgr vslty scly msp stn vdglld flor											
		17	3134.0	0.9	32.5	27.7	5.5	69.2	0.08	74.7	2.63	20.9	1
		Sd brn-gy vf-fgr vslty scly msp stn vdglld flor											
		18	3136.0	0.3	<50.0	22.1	23.4	42.4	0.55	65.8		8.0	3
		Sd brn vf-fgr vslty m stn dgld-vdglld flor											
		19	3138.0	0.6	86.1	26.5	27.1	50.9	0.53	78.0	2.64	17.4	1
		Sd brn vf-fgr vslty m-d stn vdglld flor											



Company: ERG Operating Company, LLC
Well : Los Alamos 22-RD1
Field: Cat Canyon

Location: Sec. 36-9N-33W
Elevation: 1167' K.B.
Drig Fluid: LSND

File No.: 57111-213330ER
API No.: 04-083-00394-01
Date: 8/13/2013

Sidewall Core Analysis Results

Core Images		Sample Number	Depth ft	Rec in	Perm. Kair md	Porosity %	Fluid Saturation				Grain Den g/cc	Sample Wt. g	Method
White Light	UV Light						Oil %	Water %	O/W Ratio	Total %			
		20	3140.0	0.3	301.5	32.3	27.0	42.7	0.63	69.7	2.62	17.4	1
		Sd brn vf-fgr slty m-d stn vdglld flor											
		21	3142.0	0.6	188.1	29.9	25.9	44.8	0.58	70.7	2.62	15.9	1
		Sd brn-gy vf-fgr slty scly msp stn vdglld flor											
		22	3144.0	0.7	78.2	27.9	28.4	47.7	0.59	76.1	2.62	21.8	1
		Sd brn-gy vf-fgr vsly scly dsp stn vdglld flor											
		23	3146.0	0.5	163.5	29.7	26.1	46.9	0.56	73.1	2.62	20.7	1
		Sd brn-gy vf-fgr slty scly dsp stn vdglld flor											

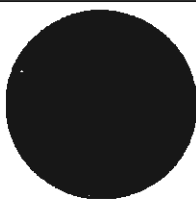
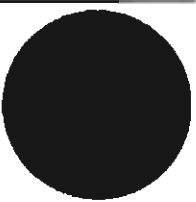

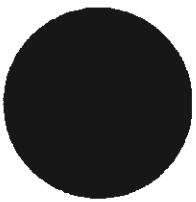

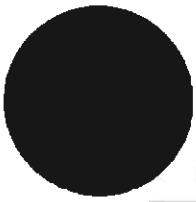

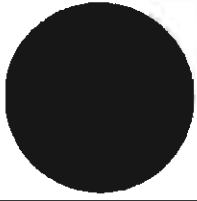


Company: ERG Operating Company, LLC
Well : Los Alamos 22-RD1
Field: Cat Canyon

Location: Sec. 36-9N-33W
Elevation: 1167' K.B.
Drig Fluid: LSND

File No.: 57111-213330ER
API No.: 04-083-00394-01
Date: 8/13/2013

Sidewall Core Analysis Results

Core Images		Sample Number	Depth ft	Rec in	Perm. Kair md	Porosity %	Fluid Saturation				Grain Den g/cc	Sample Wt. g	Method
White Light	UV Light						Oil %	Water %	O/W Ratio	Total %			
		24	3148.0	0.3	100.7	31.2	28.5	38.5	0.74	66.9	2.62	16.8	1
Sd brn vf-fgr slty-vslty scly m-d stn vdgl'd flor													
		25	3150.0	0.3	<100.0	28.2	15.8	64.6	0.24	80.4		10.8	3
Sd brn-gy vf-fgr vslty scly msp stn vdgl'd flor													
		26	3152.0	0.7	10.5	27.9	0.0	61.7	0.00	61.7	2.65	17.1	1
Sd gy vf-fgr vslty cly lams no stn no flor													
		27	3154.0	0.6	9.2	27.8	0.0	66.3	0.00	66.3	2.64	18.1	1
Sd gy vf-fgr vslty cly no stn no flor													

49



Company: ERG Operating Company, LLC
 Well : Los Alamos 22-RD1
 Field: Cat Canyon

File No.: 57111-213330ER
 API No.: 04-083-00394-01
 Date: 8/13/2013
 Core Type: Sidewall Core

Core Analysis Procedures and Conditions

	Procedure (1)	Procedure (2)	Procedure (3)	Procedure (4)
Sampling Method	Percussion	Percussion	Percussion	Rotary
Drill Coolant	N/A	N/A	N/A	N/A
Jacket Material	Nickel	None	N/A	None
Saturation Method	Dean Stark (Toluene)	Dean Stark (Toluene)	Retort	Dean Stark (Toluene)
Porosity Method				
Grain Volume	Boyle's Law (Helium)	Boyle's Law (Helium)	Bulk Vol-Pore Vol	Boyle's Law (Helium)
Pore Volume	Boyle's Law (Helium)	Bulk Vol-Grain Vol	Summation Of Fluids	Bulk Vol-Grain Vol
Bulk Volume	Pore Vol + Grain Vol	Mercury Displacement	Mercury Displacement	Mercury Displacement
Permeability Method	Air	Empirical	Empirical	Air

Common Conditions

Sleeved Sample Seating Pressure: Depth - 100 (Max 750 psi)

Confining Pressure Pore Vol & Permeability: 250 psi

Samples Dried At 235 Degrees Fahrenheit

Additional Extraction by Soxhlet with Methylene Chloride/Methanol

Oil Density used in Calculation: 1g/cc

48



NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
195 S Broadway, Suite 101 Orcutt, CA 93455-4655
Phone: (805) 937-7246 Fax: (805) 937-0673

No. T 313-0365

REPORT ON OPERATIONS

WATER DISPOSAL PROJECT Monterey

Ben Oakley
ERG Operating Company, LLC (E0255)
6085 Cat Canyon Road
Santa Maria, CA 93454

Orcutt, California
July 22, 2013

Your operations at well "Los Alamos" 22, A.P.I. No. 083-00394, Sec. 36, T. 09N, R. 33W, SB B.&M., Cat Canyon field, in Santa Barbara County, were witnessed on 7/18/2013, by Christi Proskow, a representative of the supervisor.

The operations were performed for the purpose of pressure testing the 8 5/8" casing.

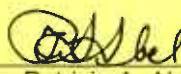
DECISION: APPROVED

cc: Santa Barbara County
Well file

CP/pd

Tim Kustic

State Oil and Gas Supervisor

By 

Patricia A. Abel, District Deputy

No. T 313-0365 ✓

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

CASING PRESSURE TEST/PFO

Operator: ERG Well designation: "Los Alamos" 22
Sec. 36 T. 9N R. 33W S. 10 B. & M. API No.: 083-00394 Field: Cat Canyon
County: Santa Barbara Witnessed/Reviewed on: 7/18/13 C. Proskow, representative(s)
of the supervisor, was/were present from 0845 to 0930
Also present was/were Leonard Taylor, Co. Man
Casing record of well:

The operations were performed for the purpose of: (5) - 898 -

Pressure Test Casing

4858
Packer/Bridge Plug at: 4858 Well Type: WD
Casing Pressured With: lease water Volume: -
Casing Pressure: Start Psi: 1200 Start Time: 2000 8/17/13
Casing Pressure: End Psi: 1200 End Time: 0900 8/18/13
Pressure Held: 13 hours min. Total Drop in Pressure: 0 psi - %
Tests Results: ✓ Good - No Good
Remarks:

PFO

Casing or Tubing Pressure: _____
Initial Pressure Drop: _____ psi after _____ sec./min.
Final Pressure: _____ psi
PFO Timeframe > Date: _____ Time: _____ To Date: _____ Time: _____
Total Time: _____

Remarks: _____



NATU _____ RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
195 S Broadway, Suite 101 Orcutt, CA 93455-4655
Phone: (805) 937-7246 Fax: (805) 937-0673

No. T 313-0315

REPORT ON OPERATIONS

WATER DISPOSAL PROJECT
Monterey

Ben Oakley
ERG Operating Company, LLC (E0255)
6085 Cat Canyon Road
Santa Maria, CA 93454

Orcutt, California
June 28, 2013

Your operations at well "Los Alamos" 22, A.P.I. No. 083-00394, Sec. 36, T. 09N, R. 33W, SB B.&M., Cat Canyon field, in Santa Barbara County, were witnessed on 6/5/2013, by Janel Chamberlain, a representative of the supervisor.

The operations were performed for the purpose of plugging back the lower portion of the well.

DECISION: **APPROVED**

cc: Santa Barbara County
Well file

JKC:pd

Tim Kustic
State Oil and Gas Supervisor

By

Patricia A. Abel, District Deputy

45

313-0315

CEMENTING/PLUGGING MEMO

Operator ERG Operating Co., LLC Well No. "Los Alamos" 22
 API No. 083-00394 Sec. 36 T. 09N R. 33W S.B. B&M
 Field Cat Canyon County Santa Barbara On 6/5/13
 Mr./Ms. J. Chamberlain representative of the supervisor, was present from 0630 to 0830

There were also present Mike McGeary - Thompco Supervisor

Casing record of well:

The operations were performed for the purpose of T(2) D(

- ☐ The plugging/~~cementing~~ operations as witnessed and reported are approved.
☐ The location and hardness of the cement plug @ _____ are approved.

Hole size: _____ " fr. _____ " to _____ " to _____ " & _____ " to _____ "

Casing				Cemented			Top of Fill		Squeezed Away	Final Pressure	Perforations
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			
7"	23#	SFC		06/03	ret @ 1,852'	5 bbl			5 bbl	600#	
				06/04	TB421205	110 cf	957'	930'	50cf	200#	1100 - 1105

Casing/tubing recovered: _____ " Shot/cut at _____ " _____ " Pulled fr. _____ "
 _____ " Shot/cut at _____ " _____ " Pulled fr. _____ "

Junk (in hole): _____

Clean Out Depth: _____ Witnessed by _____

Mudding	Date	bbls	Displaced	Poured	Fill	Engineer
10.2 ppg 40 shear	6/4/2013 0730	28 bbls			1660' - 1200'	CP
10 ppg/40 shear	6/5/2013	19 bbls	930'	—	446'	J. Chamberlain

Cement Plugs		Placing	Placing Witnessed		Top Witnessed			
Date	Volume	MO & Depth	Time	Engineer	Depth	Wt/Sample	Date & Time	Engineer
06/03	see sqz abv		1425	J Iverson	1660'	rig tag	6/4/13 0700	CP
06/03	45 cf	tbg @ 1,851'	1443	J Iverson				
06/04	see sqz above		1245-1345	S Edmunds	930'	Tbg w/ 2K	6/5/2013 0730	S. Chamberlain

Cementing Details: Class G w/35% SF @ 15.6 ppg



NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS & GEOTHERMAL RESOURCES
195 S Broadway, Suite 101 Orcutt, CA 93455 - 4655

PERMIT TO CONDUCT WELL OPERATIONS

Water Disposal Project
West Area
Monterey Formation

No. P 313-0281

Old	New
128	128
FIELD CODE	
21	21
AREA CODE	
00	15
POOL CODE	

Orcutt, California
May 30, 2013

Ben Oakley, Agent
ERG Operating Company, LLC (E0255)
6085 Cat Canyon Road
Santa Maria, CA 93454

Your proposal to **Rework** well "Los Alamos" 22, A.P.I. No. 083-00394, Section 36, T. 09N, R. 33W, SB B. & M., Cat Canyon field, West area, Monterey pool, Santa Barbara County, dated 5/28/2013, received 5/28/2013 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED PROVIDED:

- Blowout prevention equipment, as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirements:
 - Class II 2M, with hydraulic controls, on the 7" casing.
 - A 6" diverter system on the 11 3/4" casing.
 - Class II A 2M, with hydraulic controls, on the 8 5/8" casing.
- Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
- Sufficient material to control lost circulation of hole fluid shall be available for immediate use at the well site.
- The 8 5/8" casing is cemented with sufficient cement to fill behind the casing to at least 500' above all oil, gas zones and/or anomalous pressure intervals and to at least 100' above the base of freshwater zone, if present.
- This well shall conform to the provisions set forth in our letter dated **October 10, 2008**, approving the project.
- The maximum allowable surface injection pressure shall not exceed **1160 psi**.
- Injection is through tubing with packer set in cemented casing immediately above the approved zone of injection.
- Class "G" cement with a minimum of 35% silica flour, or a Division approved equivalent, shall be used for zone plugs to prevent thermal decomposition in active steam zones or where steaming is anticipated.
- All portions of the well not plugged with cement are filled with inert mud fluid having a minimum density of 72 lbs/cu.ft. and a minimum gel shear strength of 25 lbs./100 sq. ft.
- Prior to shooting any perforations or cavity shots for braidenhead squeezes, a pressure test of the 7" casing shall be made to ensure casing integrity. If casing integrity is not demonstrated, a retainer or packer is required for squeeze operations.
- No program changes are made without prior Division approval.

(Continued on Page 2)

Bond
UIC Project No. 12821002
cc: Santa Barbara County
EPA Binder

Tim Kustic
State Oil and Gas Supervisor

Engineer Ross Brunetti
Office (805) 937-7246

By Patricia A. Abel
Patricia A. Abel, District Deputy

RB:

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended. Issuance of this permit does not affect the Operator's responsibility to comply with other applicable state, federal, and local laws, regulations, and ordinances.

43

12. THIS DIVISION SHALL BE NOTIFIED TO:

- a. Witness the cement squeeze below **the retainer at 1900'**.
- b. Witness the placing of the cement plug from **1900' to 1800' or higher**.
- c. Witness a pressure test of the **7"** casing.
- d. Witness the mudding operations.
- e. Witness the cement squeeze at **1100'**.
- f. Witness the location and hardness of the cement plug at **1000 or higher'**.
- g. Inspect the diverter system prior to commencing **redrilling** operations.
- h. Witness a test of the installed blowout prevention equipment prior to drilling out the shoe of the **8 5/8"** casing.
- i. Witness a pressure test of the **8 5/8"** casing prior to commencing injection.
- j. Witness a mechanical integrity test within three months after injection has commenced.

NOTE:

1. Flowlines servicing the well, which have been out of service, must be tested to ensure their integrity.
2. Well plugging operations utilizing coiled tubing units are to be conducted in compliance with this Division's "Coiled Tubing Plugging Guidelines" dated November 24, 2004.
3. Heavy oil or other materials may hinder the bonding of cement plugs to the casing or hole. In such cases, additional cleanout operations may be required.
4. Zone isolation cement plugs shall use cement that has a minimum compressive strength of 1000 psi and a maximum liquid permeability of 0.1 md.
5. Unlined sumps containing harmful water are not to be located over freshwater bearing aquifers.
6. Hole fluid disposal must comply with Regional Water Quality Control Board regulations.
7. Approval to place this well on injection is based on **a previously completed area of review.**

RECEIVED



MAY 28 2013

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

FOR DIVISION USE ONLY		
Bond	Forms	
	OGD114	OGD121
	<i>Blanket</i>	<i>5-13</i>

NOTICE OF INTENTION TO REWORK / REDRILL WELL

Detailed instructions can be found at: www.conservation.ca.gov/dog/

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to

rework ☐ / redrill ☒ well Los Alamos #22, API No. 083-00394
(Check one)

Sec. 36, T. 9N, R. 33W, SB B&M, Cat Canyon Field, Santa Barbara County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)

11-3/4" 54# set Surface to 345'

7" 24# set Surface to 5550'

Note that the well is currently under abandonment and redrill preparation. Abandonment details on previous NOI dated 5/24/13.

The total depth is: 5550 feet.

The effective depth is: 345 feet.

Present completion zone(s): Monterey, Anticipated completion zone(s): Monterey
(Name) (Name)

Present zone pressure: 200 psi. Anticipated/existing new zone pressure: 200 psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes ☐ No ☒

For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency?
Yes ☐ No ☒ If yes, see next page.

The proposed work is as follows: (A complete program is preferred and may be attached.)

See attached drilling program

Redrill as WD well

Pool 10 WD added to CALWIMS and WSS

If well is to be redrilled or deepened, show proposed coordinates (from surface location) and true vertical depth
at total depth: 71 feet South and 71 feet East Estimated true vertical depth: 5800'
(Direction) (Direction)

Will the Field and/or Area change? Yes ☐ No ☒ If yes, specify New Field: _____ New Area: _____

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator
ERG OPERATING COMPANY LLC

Address
6085 CAT CANYON ROAD

City/State
SANTA MARIA CALIF.

Zip Code
93454

Name of Person Filing Notice
STEVE HORNER

Telephone Number:
805-361-7106

Signature
Shorner

Date
5/28/13

Individual to contact for technical questions:
LEONARD TAYLOR

Telephone Number:
805-937-7216

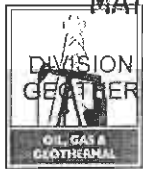
E-Mail Address:
shorner@ergresources.com

This notice and an indemnity or cash bond must be filed, and approval given, before the workover begins. (See the reverse side for bonding information.) If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

41

RECEIVED

MAY 24 2013



DIVISION OF OIL, GAS AND
GEOTHERMAL RESOURCES

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

FOR DIVISION USE ONLY			
Bond	Forms		
	OGD114	OGD121	

NOTICE OF INTENTION TO REWORK / REDRILL WELL

Detailed instructions can be found at: www.conservation.ca.gov/dog/

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to

rework ☒ / redrill ☐ well Los Alamos #22, API No. 083-00394
(Check one)

Sec. 36, T. 9N, R. 33W, SB B&M, Cat Canyon Field, Santa Barbara County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)

11-3/4" 54# set Surface to 345'

7" 24# set Surface to 5550'

The total depth is: 5550' feet.

The effective depth is: 1908 feet.

Present completion zone(s): Monterey

(Name)

Anticipated completion zone(s): _____

(Name)

Present zone pressure: 200 psi.

Anticipated/existing new zone pressure: _____ psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes ☐ No ☒

For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency?
Yes ☐ No ☐ If yes, see next page.

The proposed work is as follows: (A complete program is preferred and may be attached.)

Abandonment for Sidetrack Redrill

Move in rig up, nipple up BOP's, clean out to top of bad casing at 1908'. RIH with retainer and set at 1900'. Attempt to squeeze 400 cf cement downwards. Sting out and spot cement from 1700-1900'.

Mud up from 1700' up to 1100'. Perforate 7" casing at 1100' and squeeze 50 sxs into formation.

Set cement plug from 1100' up to 900' (100' below and 100' above Base of fresh water).

Mud up from 793 up to 445'. Set cement plug from 445' up to 345'.

See attached well schematic.

If well is to be redrilled or deepened, show proposed coordinates (from surface location) and true vertical depth

at total depth: _____ feet and _____ feet Estimated true vertical depth: _____
(Direction) (Direction)

Will the Field and/or Area change? Yes ☐ No ☒ If yes, specify New Field: _____ New Area: _____

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator

ERG OPERATING COMPANY LLC

Address

6085 CAT CANYON ROAD

City/State

SANTA MARIA CALIF.

Zip Code

93454

Name of Person Filing Notice

STEVE HORNER

Telephone Number:

805-361-7106

Signature

Date

5/24/13

Individual to contact for technical questions:

LEONARD TAYLOR

Telephone Number:

805-937-7216

E-Mail Address:

shorner@ergresources.com

This notice and an indemnity or cash bond must be filed, and approval given, before the workover begins. (See the reverse side for bonding information.) If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

40

ERG

"Los Alamos" 22

C83-00394

Sec 33 9N-33W

See history
submitted
for work
on the parted
casing.

11 3/4
345'

cem

Squeeze
pumps
1100'
50 sc

Bad 20' milled

Kickoff plug 445-345'

plug 1100-900

mud

plug 1900-1700

BFW 1090

Set Retainer 1700'

parted
1720

400 cF cement

2122' bad casing?

or hole w/ casing?

SI 2555

no
bonding

cp

2820
2005x

cp

4920

slots
4920 -
5550

sanded back to
4928'

7"

24#

5550

TD 5550

39

11 3/4 cm
345'

parted
1720

no
bonding

cp 2820
2005x

cp 4920

slots
4920 -
5550

7" 24#

5550

TD 5550

ERG

"Los Alamos" 22

083-00394

Sec 36 9N-33W

BFW 1090

S₁ 2555

- Monterey 4338' ±



ERG Operating Company
Santa Barbara County
Cat Canyon
Section 36 – T9N – R33W
Re-Drill Program
LA 22-RD1-25
API 04-083-00394-01-00

Proposed Re-Drill Operations

Drilling Rig:

Presumably pull 7" F/ 345

1. MIRU Drilling Rig.
2. Nipple up 11" Class IIA 2M BOPE with 6" diverter system. ✓
3. Pick up 10-5/8" Bit, Mud Motor, and Directional BHA.
4. RIH to top of cement plug. Clean out cement to @ 345' (bottom of 11-3/4" surface casing shoe).
5. Directionally/Control Time drill 10-5/8" hole with sidetracking BHA out of 11-3/4" shoe, sidetracking off cement plug at KOP 350'.
6. Directionally drill 10-5/8" hole f/ 350' to 4500' with 10.0 ppg drilling fluid.
7. RIH and cement 8-5/8" 36# K-55 BTC intermediate string from surface to 4500'
8. WOC, Nipple down 11" Class 2A BOPE.
9. Cut and dress 8-5/8" Casing, Install wellhead, Nipple up 11" Class IIA 2M BOPE. ✓
10. RIH with 7-7/8" Bit, Mud Motor, and Directional BHA.
11. Directionally drill 7-7/8" hole f/ 4500' to 5804' with 8.6 ppg drilling fluid.
12. RIH & Set 6-5/8" 24# K-55 BTC roundhole liner (8 x 1/2" HPF) from 4450'-5804'
13. Nipple down BOPE, secure well, release rig.

*shoe 4500 TVD 4496
0.7 - 0.44 0.26
 1169*



Prepared by Kelsey Gallegos

5/27/2013

31

ERG

Field: CAT CANYON
 Site: SECTION 6
 Well: LA 22
 Wellpath: LA 22 RD1
 Plan: LA 22 052513 P1

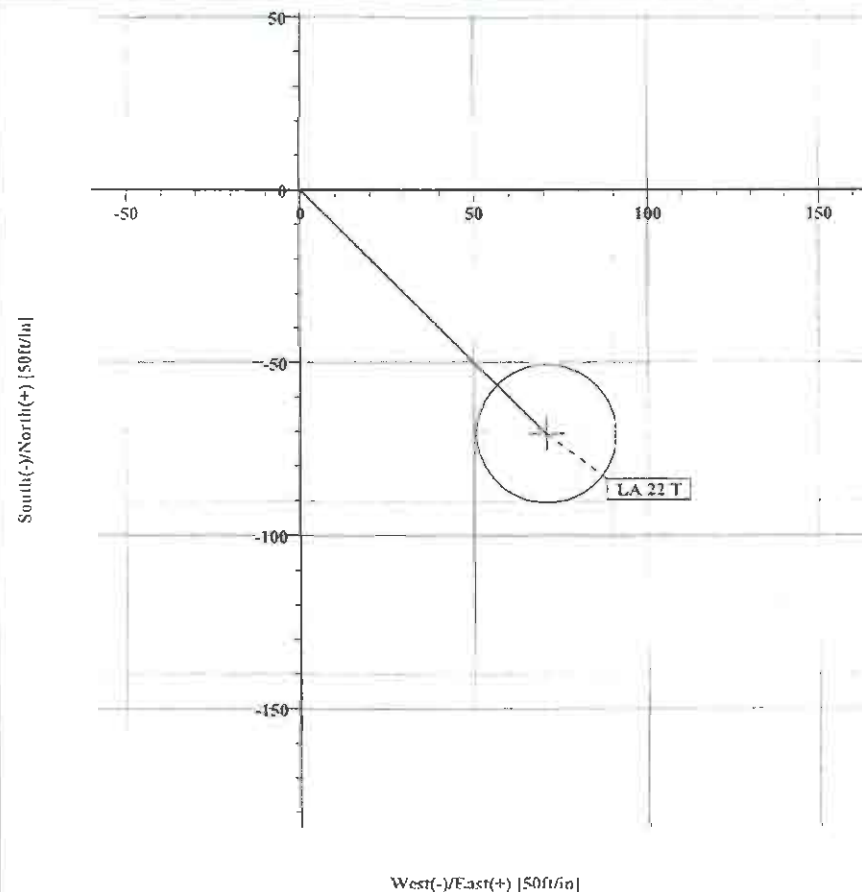
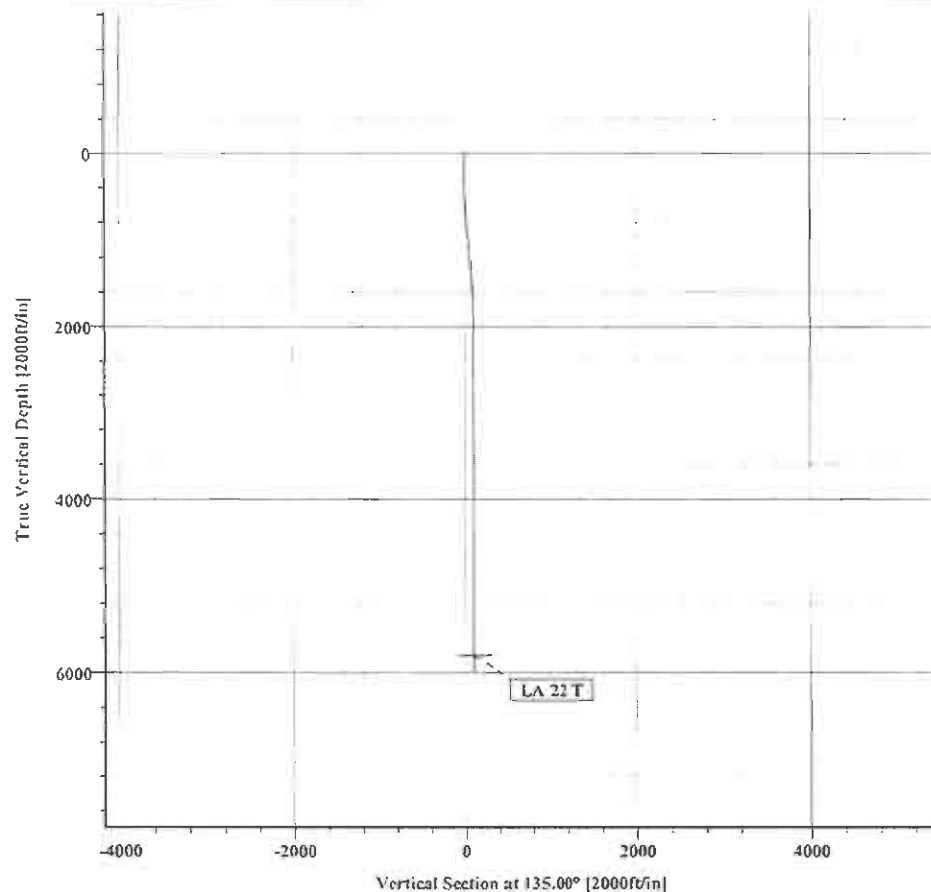


Scientific Drilling



Azimuths to Grid North
 True North: 1.32°
 Magnetic North: 14.29°

Magnetic Field
 Strength: 47396nT
 Dip Angle: 59.09°
 Date: 5/25/2013
 Model: IGRF2010



TIE IN POINT 400.00' MD
 DOGLENG RATE 3 deg /100'
 TARGET RADIUS 20'
 KB - 1163'

Plan: LA 22 052513 P1 (LA 22/LA 22 RD1)

Created By: SDI Date: 5/25/2013
 Checked: Date: _____
 Reviewed: Date: _____
 Approved: Date: _____

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/S	+E/W	DLog	Trace	VSec	Target
1	400.00	0.00	135.00	400.00	0.00	0.00	0.00	0.00	0.00	
2	566.63	5.00	135.00	566.42	-5.14	5.14	3.00	135.00	7.26	
3	1547.32	5.00	135.00	1543.58	-65.57	65.57	0.00	0.00	92.74	
4	1714.15	0.00	135.00	1710.00	-70.71	70.71	5.00	180.00	100.00	
5	5804.15	0.00	135.00	5800.00	-70.71	70.71	0.00	135.00	100.00	LA 22 T

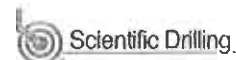
TARGET DETAILS

Name	TVD	+N/S	+E/W	Shape
LA 22 T	5800.00	-70.71	70.71	Circle (Radius: 20)

30



SDI Planning Report - Geographic



Company: ERG Date: 5/25/2013 Time: 12:52:04 Page: 1
 Field: CAT CANYON Co-ordinate(NE) Reference: Well: LA 22, Grid North
 Site: SECTION 6 Vertical (TVD) Reference: LA 22 RD1 1163.0
 Well: LA 22 Section (VS) Reference: Well (0.00N,0.00E,135.00Azi)
 Wellpath: LA 22 RD1 Plan: LA 22 052513 P1

Field: CAT CANYON
 SANTA BARBARA COUNTY
 CALIFORNIA, USA
 Map System: US State Plane Coordinate System 1983 Map Zone: California, Zone V
 Geo Datum: GRS 1980 Coordinate System: Well Centre
 Sys Datum: Mean Sea Level Geomagnetic Model: IGRF2010

Site: SECTION 6
 SEC. 6, T8N, R32W
 SANTA BARBARA COUNTY
 Site Position: Northing: 2121000.00 ft Latitude: 34 47 56.649 N
 From: Map Easting: 5875000.00 ft Longitude: 120 17 15.135 W
 Position Uncertainty: 0.00 ft North Reference: Grid
 Ground Level: 0.00 ft Grid Convergence: -1.30 deg

Well: LA 22 Slot Name:
 SUR. N 2124396.60 E 5868701.30
 Well Position: +N-S 3396.60 ft Northing: 2124396.60 ft Latitude: 34 48 28.814 N
 +E-W -6298.70 ft Easting: 5868701.30 ft Longitude: 120 18 31.582 W
 Position Uncertainty: 0.00 ft

Wellpath: LA 22 RD1 Drilled From: LA 22 OH
 Current Datum: LA 22 RD1 Height 1163.00 ft Tie-on Depth: 400.00 ft
 Magnetic Data: 5/25/2013 Above System Datum: Mean Sea Level
 Field Strength: 47396 uT Declination: 12.97 deg
 Vertical Section: Depth From (TVD) +N-S +E-W Mag Dip Angle: 59.09 deg
 ft ft ft Direction deg
 5800.00 0.00 0.00 135.00

Plan: LA 22 052513 P1 Date Composed: 5/25/2013
 Principal: Yes Version: 1
 Tied-to: From: Definitive Path

Plan Section Information

MD ft	Incl deg	Azlm deg	TVD ft	+N-S ft	+E-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
400.00	0.00	135.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
566.63	5.00	135.00	566.42	-5.14	5.14	3.00	3.00	0.00	135.00	
1547.52	5.00	135.00	1543.58	-65.57	65.57	0.00	0.00	0.00	0.00	
1714.15	0.00	135.00	1710.00	-70.71	70.71	3.00	-3.00	0.00	180.00	
5804.15	0.00	135.00	5800.00	-70.71	70.71	0.00	0.00	0.00	135.00	LA 22 T

Section 1 : Start Build 3.00

MD ft	Incl deg	Azlm deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
400.00	0.00	135.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	3.00	135.00	499.95	-1.85	1.85	2.62	3.00	3.00	0.00	0.00
566.63	5.00	135.00	566.42	-5.14	5.14	7.26	3.00	3.00	0.00	0.00

Section 2 : Start Hold

MD ft	Incl deg	Azlm deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
600.00	5.00	135.00	599.66	-7.19	7.19	10.17	0.00	0.00	0.00	0.00
700.00	5.00	135.00	699.28	-13.35	13.35	18.89	0.00	0.00	0.00	0.00
800.00	5.00	135.00	798.90	-19.52	19.52	27.60	0.00	0.00	0.00	0.00
900.00	5.00	135.00	898.52	-25.68	25.68	36.31	0.00	0.00	0.00	0.00
1000.00	5.00	135.00	998.14	-31.84	31.84	45.03	0.00	0.00	0.00	0.00
1100.00	5.00	135.00	1097.76	-38.00	38.00	53.74	0.00	0.00	0.00	0.00
1200.00	5.00	135.00	1197.38	-44.16	44.16	62.45	0.00	0.00	0.00	0.00
1300.00	5.00	135.00	1297.00	-50.32	50.32	71.17	0.00	0.00	0.00	0.00
1400.00	5.00	135.00	1396.62	-56.48	56.48	79.88	0.00	0.00	0.00	0.00
1500.00	5.00	135.00	1496.24	-62.65	62.65	88.59	0.00	0.00	0.00	0.00
1547.52	5.00	135.00	1543.58	-65.57	65.57	92.74	0.00	0.00	0.00	0.00

35



SDI

Planning Report - Geographic



Company: ERG
Field: CAT CANYON
Site: SECTION 6
Well: LA 22
Wellpath: LA 22 RD1

Date: 5/25/2013 Time: 12:52:04
Co-ordinate(N/E) Reference: Well: LA 22, Grid North
Vertical (TVD) Reference: LA 22 RD1 1163.0
Section (Y/S) Reference: Well (0.00N,0.00E,135.00Azi)
Plan: LA 22 052513 P1

Page: 2

Section 3 : Start Drop -3.00

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
1600.00	3.42	135.00	1595.91	-68.30	68.30	98.59	3.00	-3.00	0.00	180.00
1700.00	0.42	135.00	1695.85	-70.67	70.67	99.95	3.00	-3.00	0.00	180.00
1714.15	0.00	135.00	1710.00	-70.71	70.71	100.00	3.00	-3.00	0.00	-180.00

Section 4 : Start Hold

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
1800.00	0.00	135.00	1795.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
1900.00	0.00	135.00	1895.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2000.00	0.00	135.00	1995.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2100.00	0.00	135.00	2095.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2200.00	0.00	135.00	2195.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2300.00	0.00	135.00	2295.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2400.00	0.00	135.00	2395.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2500.00	0.00	135.00	2495.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2600.00	0.00	135.00	2595.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2700.00	0.00	135.00	2695.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2800.00	0.00	135.00	2795.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
2900.00	0.00	135.00	2895.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3000.00	0.00	135.00	2995.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3100.00	0.00	135.00	3095.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3200.00	0.00	135.00	3195.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3300.00	0.00	135.00	3295.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3400.00	0.00	135.00	3395.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3500.00	0.00	135.00	3495.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3600.00	0.00	135.00	3595.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3700.00	0.00	135.00	3695.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3800.00	0.00	135.00	3795.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
3900.00	0.00	135.00	3895.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4000.00	0.00	135.00	3995.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4100.00	0.00	135.00	4095.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4200.00	0.00	135.00	4195.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4300.00	0.00	135.00	4295.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4400.00	0.00	135.00	4395.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4500.00	0.00	135.00	4495.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4600.00	0.00	135.00	4595.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4700.00	0.00	135.00	4695.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4800.00	0.00	135.00	4795.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
4900.00	0.00	135.00	4895.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5000.00	0.00	135.00	4995.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5100.00	0.00	135.00	5095.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5200.00	0.00	135.00	5195.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5300.00	0.00	135.00	5295.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5400.00	0.00	135.00	5395.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5500.00	0.00	135.00	5495.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5600.00	0.00	135.00	5595.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5700.00	0.00	135.00	5695.85	-70.71	70.71	100.00	0.00	0.00	0.00	135.00
5804.15	0.00	135.00	5800.00	-70.71	70.71	100.00	0.00	0.00	0.00	135.00

Survey

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	Map Northlog ft	Map Easting ft	← Latitude → Deg Min Sec			← Longitude → Deg Min Sec		
400.00	0.00	135.00	400.00	0.00	0.00	2124396.60	5868701.30	34	48	28.814 N	120	18	31.582 W
500.00	3.00	135.00	499.95	-1.85	1.85	2124394.75	5868703.15	34	48	28.798 N	120	18	31.560 W
566.63	5.00	135.00	566.42	-5.14	5.14	2124391.46	5868706.44	34	48	28.764 N	120	18	31.519 W
600.00	5.00	135.00	599.66	-7.19	7.19	2124389.41	5868708.49	34	48	28.745 N	120	18	31.494 W
700.00	5.00	135.00	699.28	-13.35	13.35	2124383.25	5868714.65	34	48	28.695 N	120	18	31.418 W
800.00	5.00	135.00	798.90	-19.52	19.52	2124377.08	5868720.82	34	48	28.626 N	120	18	31.343 W
900.00	5.00	135.00	898.52	-25.68	25.68	2124370.92	5868726.98	34	48	28.566 N	120	18	31.267 W
1000.00	5.00	135.00	998.14	-31.84	31.84	2124364.76	5868733.14	34	48	28.506 N	120	18	31.192 W
1100.00	5.00	135.00	1097.76	-38.00	38.00	2124358.60	5868739.30	34	48	28.447 N	120	18	31.116 W
1200.00	5.00	135.00	1197.38	-44.16	44.16	2124352.44	5868745.46	34	48	28.387 N	120	18	31.041 W
1300.00	5.00	135.00	1297.00	-50.32	50.32	2124346.28	5868751.62	34	48	28.328 N	120	18	30.965 W
1400.00	5.00	135.00	1396.62	-56.48	56.48	2124340.12	5868757.78	34	48	28.268 N	120	18	30.889 W
1500.00	5.00	135.00	1496.24	-62.65	62.65	2124333.95	5868763.95	34	48	28.209 N	120	18	30.814 W

34



SDI Planning Report - Geographic



Company: ERG
Field: CAT CANYON
Site: SECTION 6
Well: LA 22
Wellpath: LA 22 RD1

Date: 5/25/2013 Time: 12:52:04
Co-ordinate(NE) Reference: Well: LA 22, Grid North
Vertical (TVD) Reference: LA 22 RD1 1163.0
Section (VS) Reference: Well (0.00N,0.00E,135.00Azi)
Plan: LA 22 052513 P1

Page: 3

Survey

MD ft	Incl deg	Azlm deg	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec		← Longitude → Deg Min Sec	
1547.52	5.00	135.00	1543.58	-65.57	65.57	2124331.03	5868766.87	34 48	28.181 N	120 18	30.778 W
1600.00	3.42	135.00	1595.91	-68.30	68.30	2124328.30	5868769.60	34 48	28.154 N	120 18	30.745 W
1700.00	0.42	135.00	1695.85	-70.67	70.67	2124325.93	5868771.97	34 48	28.131 N	120 18	30.715 W
1714.15	0.00	135.00	1710.00	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
1800.00	0.00	135.00	1795.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
1900.00	0.00	135.00	1895.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2000.00	0.00	135.00	1995.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2100.00	0.00	135.00	2095.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2200.00	0.00	135.00	2195.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2300.00	0.00	135.00	2295.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2400.00	0.00	135.00	2395.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2500.00	0.00	135.00	2495.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2600.00	0.00	135.00	2595.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2700.00	0.00	135.00	2695.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2800.00	0.00	135.00	2795.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
2900.00	0.00	135.00	2895.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3000.00	0.00	135.00	2995.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3100.00	0.00	135.00	3095.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3200.00	0.00	135.00	3195.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3300.00	0.00	135.00	3295.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3400.00	0.00	135.00	3395.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3500.00	0.00	135.00	3495.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3600.00	0.00	135.00	3595.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3700.00	0.00	135.00	3695.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3800.00	0.00	135.00	3795.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
3900.00	0.00	135.00	3895.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4000.00	0.00	135.00	3995.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4100.00	0.00	135.00	4095.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4200.00	0.00	135.00	4195.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4300.00	0.00	135.00	4295.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4400.00	0.00	135.00	4395.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4500.00	0.00	135.00	4495.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4600.00	0.00	135.00	4595.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4700.00	0.00	135.00	4695.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4800.00	0.00	135.00	4795.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
4900.00	0.00	135.00	4895.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5000.00	0.00	135.00	4995.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5100.00	0.00	135.00	5095.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5200.00	0.00	135.00	5195.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5300.00	0.00	135.00	5295.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5400.00	0.00	135.00	5395.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5500.00	0.00	135.00	5495.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5600.00	0.00	135.00	5595.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5700.00	0.00	135.00	5695.85	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
5804.15	0.00	135.00	5800.00	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W

Targets

Name	Description Dip.	Dir.	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec		← Longitude → Deg Min Sec	
LA 22 T			5800.00	-70.71	70.71	2124325.89	5868772.01	34 48	28.131 N	120 18	30.715 W
-Circle (Radius: 20)											
-Plan hit target											

33



N A T I O N A L R E S O U R C E S A G E N C Y O F C A L I F O R N I A
D E P A R T M E N T O F C O N S E R V A T I O N
D I V I S I O N O F O I L , G A S & G E O T H E R M A L R E S O U R C E S
195 S Broadway, Suite 101 Orcutt, CA 93455 - 4655

No. P 313-0277

<u>Old</u>	<u>New</u>
128	128
FIELD CODE	
21	21
AREA CODE	
POOL CODE	

PERMIT TO CONDUCT WELL OPERATIONS

Water Disposal Project
West Area
Monterey Formation

Orcutt, California
May 31, 2013

Ben Oakley, Agent
ERG Operating Company, LLC (E0255)
6085 Cat Canyon Road
Santa Maria, CA 93454

Your proposal to Rework well "Los Alamos" 22, A.P.I. No. 083-00394, Section 36, T. 09N, R. 33W, SB B. & M., Cat Canyon field, West area, -- pool, Santa Barbara County, dated 5/24/2013, received 5/24/2013 has been examined in conjunction with records filed in this office.

THE PROPOSAL IS APPROVED.


1. In all other respects, the operations are to be conducted in accordance with provisions outlined in Permit P313-0281, dated May 30, 2013.

Blanket Bond
cc: Santa Barbara County

Engineer Ross Brunetti
Office (805) 937-7246

RB:cb

Tim Kustic
State Oil and Gas Supervisor

By 
Patricia A. Abel, District Deputy

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended. Issuance of this permit does not affect the Operator's responsibility to comply with other applicable state, federal, and local laws, regulations, and ordinances.

32

RECEIVED

MAY 24 2013



DIVISION OF OIL, GAS AND
GEOTHERMAL RESOURCES

NATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

FOR DIVISION USE ONLY		
Bond	Forms	
	OGD114	OGD121
Blanket	Cal Wm	S-13 Ch

NOTICE OF INTENTION TO REWORK / REDRILL WELL

Detailed instructions can be found at: www.conservation.ca.gov/dog/

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to

rework ☒ / redrill ☐ well Los Alamos #22, API No. 083-00394
(Check one)

Sec. 36, T. 9N, R. 33W, SB B.&M., Cat Canyon Field, Santa Barbara County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)

11-3/4" 54# set Surface to 345'

7" 24# set Surface to 5550'

The total depth is: 5550' feet.

The effective depth is: 1908 feet.

Present completion zone(s): Monterey

(Name)

Anticipated completion zone(s):

(Name)

Present zone pressure: 200 psi.

Anticipated/existing new zone pressure: _____ psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes ☐ No ☒

For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency?
Yes ☐ No ☐ If yes, see next page.

The proposed work is as follows: (A complete program is preferred and may be attached.)

Abandonment for Sidetrack Redrill

Move in rig up, nipple up BOP's, clean out to top of 'bad casing at 1908'. RIH with retainer and set at 1900'. Attempt to squeeze 400 cf cement downwards. Sting out and spot cement from 1700-1900'

Mud up from 1700' up to 1100'. Perforate 7" casing at 1100' and squeeze 50 sxs into formation

Set cement plug from 1100' up to 900' (100' below and 100' above Base of fresh water)

Mud up from 793 up to 445'. Set cement plug from 445' up to 345'

See attached well schematic.

If well is to be redrilled or deepened, show proposed coordinates (from surface location) and true vertical depth

at total depth: _____ feet and _____ feet Estimated true vertical depth: _____
(Direction) (Direction)

Will the Field and/or Area change? Yes ☐ No ☒ If yes, specify New Field: _____ New Area: _____

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator

ERG OPERATING COMPANY LLC

Address

6085 CAT CANYON ROAD

City/State

SANTA MARIA CALIF.

Zip Code

93454

Name of Person Filing Notice

STEVE HORNER

Telephone Number:

805-361-7106

Signature

Date

5/24/13

Individual to contact for technical questions:

LEONARD TAYLOR

Telephone Number:

805-937-7216

E-Mail Address:

shorner@ergresources.com

This notice and an indemnity or cash bond must be filed, and approval given, before the workover begins. (See the reverse side for bonding information.) If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

31

ERG

"Los Alamos" 22

C83-C0394

Sec 36 9N-33W

perf 1200 plus

1100 1200-1000

sqz 100' of annulus

BEW 1090

Retainer at 1900 ± and sqz 400 CF

Si 2555

can't get below bad

Redbull to

11 3/4 am
345'

~450

parted
1920

calc TOC
2258

no
bonding

cp 2820

calc TOC
3933

cp 4920

slots
4920 -
5550

7" 24#

5550

TD 5550,

30

Operator E.R.G OPERATING CO L.L.C

API # 04-083-00394

Field/Lease CAT CANYON / LOS ALAMOS

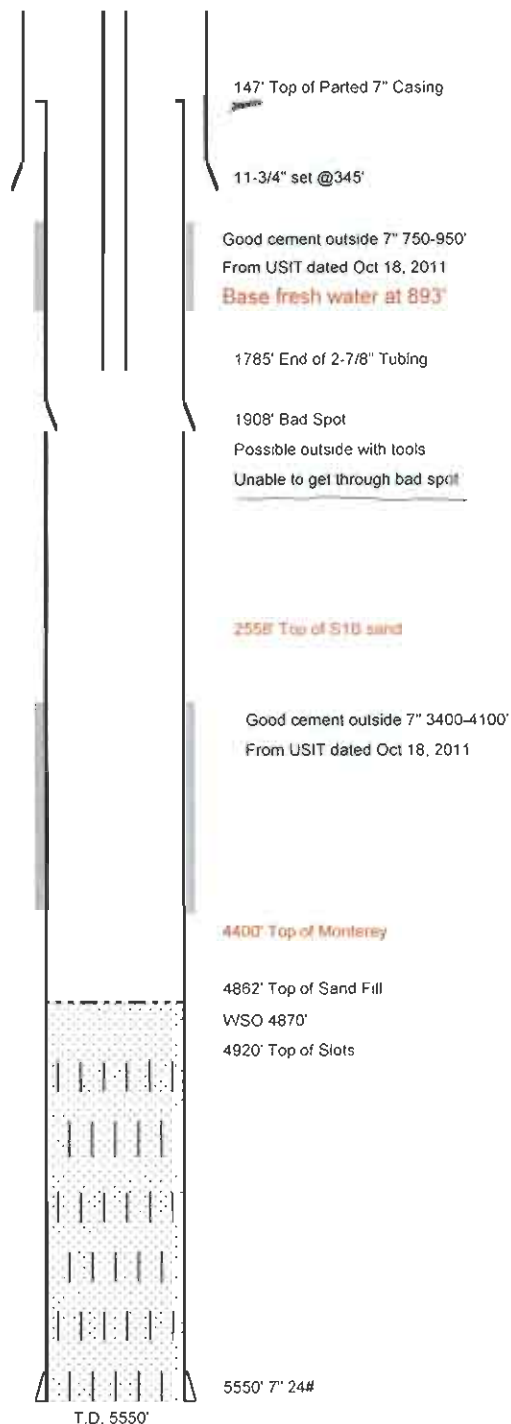
Well # 22-36

AFE #

Rig	MMI 21	Pusher	LONNIE
-----	--------	--------	--------

Date Start 4/5/2013

Complete 4/26/2013



Kelly Bushing	12	Wellhead	
Pumping Unit			Crank Slot
Strokes/Min		Stroke Lgth	

Csg Size	Weight	Top - Bottom	Perfs/Slots
11-3/4"	54#	0 - 345'	
7"	24#	0 - 5550'	4920 -5550
			630'of 180 mesh x 2'
			7"liner 16 rows with 6" centers

[illegible]

Size	Number	Length	Make	Guides
		0		
		0		
		0		
		0		
Rod Subs				
Polished Rod				
Pump Data				

DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES CHECK LIST - RECORDS RECEIVED AND WELL STATUS

COMPANY ERG Operating Company LLC WELL NO "Los Alamos" 22
API NO. 083-00394 SEC. 36, T. 9N, R. 33W, S.B. B.&M.
COUNTY Santa Barbara FIELD Cat Canyon

RECORDS RECEIVED

DATE

STATUS

Well Summary (Form OG100) _____
History (form OG103) _____ 05-24-13
Directional Survey _____
Core Record and/or SWS _____
Other: _____
Electric logs: _____

No change

(Date)

Engineer's Check List

Summary, History, & Core Record

Directional Survey

Logs

Operator's Name

Signature

Well Designation

Location

GPS Location Received

Entered in Computer

Notice

"T" Reports

Casing Record

Plugs (Sfc. Plg Date)

Final Sfc. Insp Date _____

Production/Injection

E Well on Prod., enter EDP

Computer

Drlg Table-TD

(F; Annual Rept/Yr/Prelim Drlg Stat)

Redrill & Deepen Depths

(F: Annual Rept/Yr/Prelim Drlg Stat)

Idle Well Status Change

(F: Idle/Idle Wells 2000/Idle Wells Master

WSS Code or Status Changes

Clerical Check List

Form OGD121
 Location change (OG165)
 Elevation change (GD165)
 Final Letter (OG159)
 Release of Bond (OGD150)
 Abd in WSS
 Notice of Records Due (OGD170)
 Request:

Map Work:

Follow Up: new FBI

Hold for: _____

Scan Records

Records Approved 5/30/13 (23)

History of
unsuccessful casing repair.

28

RECEIVED**MAY 24 2013**

DOGR

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

HISTORY OF OIL OR GAS WELL

DIVISION OF OIL, GAS AND
GEOTHERMAL RESOURCES

Operator ERG OPERATING COMPANY L.L.C.Field CAT CANYONCounty SANTA BARBARAWell LOS ALAMOS #22

Sec. _____

T. _____

R. _____

B.&M. _____

A.P.I. No. 083-00394Name JAMES WAGNERTitle SUPERINTENDENTDate May 21, 2013

(Person submitting report)

(President, Secretary, or Agent)

(Month, day, year)

Signature _____

Address 6085 CAT CANYON ROAD, SANTA MARIA, CALIF. 93454Telephone Number 805-937-7216

History must be complete in all detail. Use this form to report all operations during drilling and testing of the well or during redrilling or altering the casing, plugging, or abandonment, with the dates thereof. Include such items as hole size, formation test details, amounts of cement used, top and bottom of plugs, perforation details, sidetracked junk, bailing tests, and initial production data.

Date	
4-5-13	Move on well and rig up. Open well with 475 psi, bleed down to 50 psi, CWIFN
4-8-13	Open well 300 psi on tubing, bleed down pump 70 bbls lease water down tubing and Casing, nipple up BOP's, pull out with 10 joints 2-7/8" tubing. Run in hole with 7" scrapper, talley drift 2-7/8" tubing and stop at 1901' tight spot. Work scrapper down to 1916' could not go deeper. POOH with tubing lay down scrapper. RIH with 2-7/8" saw tooth collar to 3009' close well in for night.
4-9-13	Open well, rig up foam unit, lower down with tubing to <u>3041'</u> <u>start foaming</u> unload hole got black oil went down to 4536'. Foam unit broke down, pump water down tbg. CWIFN
4-10-13	Open well, lower down with tubing tag at <u>4536'</u> , rig up foam unit, broke circulation, went down to 5073' start foaming got back black oil, water and sand got down to 5120' and had rig problems, pull up to 2400' CWIFN.
4-11-13	Open well, lower down with tubing start foaming tag at 5168', work tubing down to 5188' with no returns, continue down to 5218' got returns, foam down to 5278' could not make any more hole. Pull tubing up to check valve pump water down tubing to kill well, rig down foam unit, pull out hole with 2-7/8" tubing to 624' CWIFN.
4-12-13	Open well, finish out hole with 2-7/8" tubing and saw tooth collar. Pick up 1 joint 5-1/2" casing run in hole tag at 20' would not go deeper. Pull out and lay down the joint 5-1/2" casing, run in with <u>3-1/8" O.D. bailer and stop at 1901'</u> . Pull out run in with 2-5/8" bailer tag at 1901' pull out got some sand in bailer. Move in pump and tank, measure run in hole with 6-1/8" tapered mill, 6-1/8" string mill to 20.3', rig up power swivel, mill down one foot to 21.3' pull up in clear and CWIFN.
4-13-13	Open well, lower down with mill tag at 21.5', rig up power swivel start milling drop through at <u>23'</u> rig down power swivel. Pick up 3 4-1/2" drill collars continue in hole with 2-7/8" tubing tag at <u>1889'</u> , rig up power swivel, start milling with water did not make much hole, pull up to 1847' in clear, CWIFN.
4-14-13	Open well, lower down with mill tag 1889' rig up power swivel, continue milling down broke through at <u>1936'</u> , clean out to 1956' lower down to 1996', mill and work through to <u>2111'</u> circulate clean. POOH with tubing lay down collars and CWIFN.
4-15-13	Open well, pick up mills, drill collars run back in hole on 2-7/8" tubing tag at <u>2111'</u> , rig up power swivel and start milling. Continue down hitting tight spots, scrapping casing, work down to 5227', circulate clean recovering black scale, pull 10 stands and close well in for night.

HISTORY OF OIL OR GAS WELL

- 4-16-13 Open well, pull out hole with tubing and lay down drill collars. The tapered mill was still in gauge and the top string mill was 1/16" under gauge. RIH with 4-7/8" rock bit, 2-7/8" tubing, to 3560', rig up foam unit, unload hole with foam, and lower down with tubing tag 5220'. Foam down to 5278' and could not make any more hole. Rig up power swivel drill and foam down with good returns to 5550' circulate clean recovering sand and scale. Rig down power swivel, foam unit, pull 15 stands and CWIFN.
- 4-17-13 Open well, lower back down with tubing tag at 5550' no fill, pull out of hole with tubing and rock bit. Pick up 1 joint 5-1/2" flush joint casing run in hole with tubing stop at 20' work down to 30' went past tight spot on down to 1908' and stop would not go deeper. POOH with tubing and joint 5-1/2" casing. RIH with 2-7/8" tubing open ended tag at 5366', dump enough sand to fill hole up to 4928', pull 10 stands and CWIFN.
- 4-18-13 Open well, lower down with tubing tag at 5026', pull up dump more sand, lower down tag 4995', continue dumping sand last tag was at 4946'. Pump 40 bbls field saltwater down tubing, pull with 5 stands, pump 70 bbls water down casing, CWIFN.
- 4-19-13 Open well, lower down with tubing tag at 4926', dump 32 cu/ft sand pull up and let settle. Lower down tag 4862', POOH with 2-7/8" tubing, pick up 1 joint 5-1/2" casing with orange peal bottom and run in hole stop at 2130' would not go deeper. POOH with joint of 5-1/2" casing. Rig up casing tongs, run in hole with 5-1/2" flush joint casing stop at 1918', work past down to 2087' & would not go deeper. Pull out w/ 5 joints of 5-1/2" casing, and close well in for night.
- 4-20-13 Open well, finish out hole with 5-1/2" casing, and rig down casing tongs. Measure RIH with tapered mill, string mills, tag at 27' work pass, rig up power swivel close well in.
- 4-21-13 Open well, lower down with tubing tag at 1918', mill down to 1936' tubing started to plug up, pull up on tubing had heavy drag, rig down power swivel, pull and work tubing free had drag for 70'. Pull 6 stands, circulate well to clear tubing, pump 140 bbls and clean hole, lower back down tag at 1873', POOH with 7 stands and CWIFN.
- 4-22-13 Open well, POOH with tubing, drill collars, and mills. RIH with 2-7/8" saw tooth collar on 2-7/8" tubing to 1884', break circulation with chunks of cement and shale in returns. Wash down to 1915' with lot of cement in returns, start switching hole over with mud when pump plugged up. Pull out with 6 stands and unplug pump. CWIFN
- 4-23-13 Open well on vacuum, lower down with tubing tag at 1908', circulate well around with mud getting lot of cuttings back, work down to 1943' pull up tubing trying to get stuck had to pull 30K over string weight to get free. Continue to work tubing down to 1977' started getting stuck, pull free and pull back up to 1908'. Lower down tagging at 1908' wash and work back down to 1977' circulate clean getting lot cuttings in returns POOH with 2-7/8" tubing and saw tooth collar. CWIFN
- 4-24-13 Open well zero psi, RIH with 6-1/8" bit on 2-7/8" tubing tag at 1908' could not work through. POOH with tubing change bit to 5-5/8" and run back in hole tag at 1908' and could not work past, POOH with tubing change bit to 4-3/4" run in hole tag at 1908' unable to work past circulate well around with mud. POOH with tubing and bit, RIH with 3" bull plug on bottom of 2 joints 3-1/2" tubing, crossover, 2-7/8" tubing and work past 1908' down to 1922'. Pull out with 8 stands and close well in.
- 4-25-13 Open well on vacuum, lower down with tubing, work past 1908' wash and work down to 1987' could not make any more hole, POOH with tubing lay down 2 joints 3-1/2" tubing. RIH with 1 joint 2-3/8" mule shoe tag at 1918' work past down to 1975' unable to get deeper. POOH with 5 stands and close well in.

20

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

HISTORY OF OIL OR GAS WELL

4-26-13

Open well zero psi, POOH with tubing lay down joint of 2-3/8" tubing. Break down mills, lay down drill collars, rig down pump and power swivel. RIH with 58 joints 2-7/8" tubing to 1785 EOT. Nipple down BOP's, rig down rig floor, land well head, load out tools and Lay down drill collars, rig down pump and power swivel. RIH with 58 joints 2-7/8" tubing, nipple down BOP's, nipple up tree, rig down and move off. Clean location.

25

NATURAL RESOURCES AGENCY
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES
195 So. Broadway., Suite 101, Orcutt, CA 93455-5077
(805) 937-7246

REPORT OF CANCELLATION

Ben Oakley, Agent
ERG Operating Company LLC (E0255)
6085 Cat Canyon Road
Santa Maria, CA 93455

Orcutt, California
May 16, 2013

In accordance with a phone conversation between Steve Horner and Patricia Abel
on May 15, 2013, the following change pertaining to your well "Los Alamos" 22,
API 083-00394, Cat Canyon field, Santa Barbara County, Sec. 36, T. 9N, R. 33W,
S.B. B&M, is being made in our records:

___ The corrected location is _____.

___ The corrected elevation is _____

___ Report No. _____, dated _____, has been corrected as follows:

X Your NOI to convert to injection dated 4/07/11 and one year extension dated
9/27/12 received 5/16/11 and 9/27/12, and our report No. P311-343, dated 9/23/11,
issued in answer thereto, is hereby cancelled inasmuch as the work will not be done.
If you have an individual bond on file covering this notice, it will be returned. No
request for such return is necessary.

___ Other: _____

PA:cb

cc: Cancellation/Chrono
Conservation Committee
Santa Barbara County Petroleum
Update
Well File/Map

TIM KUSTIC
State Oil and Gas Supervisor

By Patricia A. Abel
Patricia A. Abel, District Deputy

RB / Steve Horner & Leonard Taylor - ERG

Los Alamos 22

Cement outside 7" ~ 700' \pm (CBL) - 990'
across lowest Careaga/Upper Foxen

Bad - parted? - casing at 1920.

Good cement(?) 3400' to

Want to know if cementing $5\frac{1}{2}$ " inner string will
be OK to inject w/o packer per 1724.10(g)

No. Condition of 7" is too questionable and
not enough cement lift covering BEW.

47

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

WELL STATUS INQUIRY

9-10-12
5-16-13
Orcutt, Calif.

Date: August 28, 2012

To: Ben Oakley, Agent
ERG Operating Company LLC
6085 Cat Canyon Road
Santa Maria, CA 93455

Division Office: Department of Conservation
D.O.G.G.R.
195 So. Broadway, Suite 101
Orcutt, CA 93455

In a notice dated 04-07-11, you propose to convert to injection
Well "Los Alamos" 22 API number 083- .00394
Field Cat Canyon, County Santa Barbara, Sec. 36, T. 9N, R. 33W, S.B. B.&M.

Please indicate below the conditions or intentions regarding this proposed work, and return the completed form to this office within 10 days.

ok to cancel as per
conversation w/
Steve Horner 5-15-13

Tim Kustic
State Oil and Gas Supervisor

By Patricia A. Abel
Patricia A. Abel, District Deputy

☐ PROPOSED WORK HAS BEEN DONE. (If you check this box, please file the required well records on this work in duplicate within 60 days after work was completed.)

☐ PROPOSED WORK IS IN PROGRESS AND SHOULD BE COMPLETED ABOUT _____
(date)

☒ PROPOSED WORK HAS NOT BEEN DONE, BUT WE STILL INTEND TO DO THE WORK. ** IF YOU CHECK THIS BOX, YOU MUST CHECK ONE OF THE TWO BOXES BELOW:

☒ THERE ARE NO PROGRAM CHANGES. PLEASE CONSIDER THIS FORM AS A SUPPLEMENTARY NOTICE.
(The Division may approve a one-year extension of the original notice and permit, with or without issuing a permit in response to your submitted Supplementary Notice.)
1 yr Extension to 5-16-13

☐ OUR PROGRAM HAS CHANGED. SUPPLEMENTARY NOTICE (Form OG123) ATTACHED.
(A new permit will be issued by the Division in response to your submitted Supplementary Notice.)

☐ WE DO NOT INTEND TO DO THE PROPOSED WORK. Please cancel our notice to _____
dated _____

☐ OTHER: _____

Name	Telephone Number	Signature	Date
Individual to contact for technical questions.	Telephone Number	E-Mail Address	

* Division 3 of the *Public Resources Code* states, in part:
Section 3215, ...Well records shall be filed 60 days after completion or suspension of proposed work
** If operations have not commenced or if you do not return this form within one year of receipt of the notice, the notice will be considered canceled.

cc: Chrono/Follow-up/Well File

cb

RECEIVED

SEP 27 2012

DIVISION OF OIL, GAS, AND
GEOTHERMAL RESOURCES

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

WELL STATUS INQUIRY

NO.	ER	WOND NO.	114	121
				09-12 ch

Orcutt, Calif.

To: Ben Oakley, Agent
ERG Operating Company LLC
6085 Cat Canyon Road
Santa Maria, CA 93455

Date: August 28, 2012

Division Office: Department of Conservation

D.O.G.G.R.

195 So. Broadway, Suite 101


Orcutt, CA 93455

In a notice dated 04-07-11, you propose to convert to injection
Well "Los Alamos" 22 API number 083- 00394
Field Cat Canyon County Santa Barbara Sec. 36 T. 9N R. 33W S.B. B&M

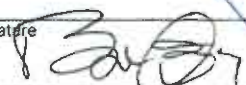
Please indicate below the conditions or intentions regarding this proposed work, and return the completed form to this office within 10 days.

 CANCELLED

Tim Rustic
State Oil and Gas Supervisor

By 
Patricia A. Abel, District Deputy

- ☐ PROPOSED WORK HAS BEEN DONE. (If you check this box, please file the required well records on this work in duplicate within 60 days after work was completed.)
- ☐ PROPOSED WORK IS IN PROGRESS AND SHOULD BE COMPLETED ABOUT _____ (date)
- ☒ PROPOSED WORK HAS NOT BEEN DONE, BUT WE STILL INTEND TO DO THE WORK. ** IF YOU CHECK THIS BOX, YOU MUST CHECK ONE OF THE TWO BOXES BELOW:
- ☒ THERE ARE NO PROGRAM CHANGES. PLEASE CONSIDER THIS FORM AS A SUPPLEMENTARY NOTICE (The Division may approve a one-year extension of the original notice and permit, with or without issuing a permit in response to your submitted Supplementary Notice.) *1 yr extension to 5-16-13*
- ☐ OUR PROGRAM HAS CHANGED. SUPPLEMENTARY NOTICE (Form OG123) ATTACHED. (A new permit will be issued by the Division in response to your submitted Supplementary Notice.)
- ☐ WE DO NOT INTEND TO DO THE PROPOSED WORK. Please cancel our notice to _____ dated _____
- ☐ OTHER: _____

Name Ben Oakley	Telephone Number: 937-7216	Signature 	Date 9/27/12
Individual to contact for technical questions Steve	Telephone Number: Same	E-Mail Address: BOakley@ERGResources.com	

- * Division 3 of the Public Resources Code states, in part:
Section 3215, ... Well records shall be filed 60 days after completion or suspension of proposed work
- ** If operations have not commenced or if you do not return this form within one year of receipt of the notice, the notice will be considered canceled.

cc: Chrono/Follow-up/Well File

cb

*Pages 15-40 are the casing diagrams
for the AOR. They were removed and
placed in the project file.*

45
21

NATURAL RESOURCES AGENCY
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES

No. P 311-343

PERMIT TO CONDUCT WELL OPERATIONS

WATER DISPOSAL PROJECT
WEST AREA
MONTEREY FORMATION

(Old) Field Code (New)

(Old) Area Code (New)

(Old) Pool Code (New)

Ben Oakley, Agent
ERG Operating Company L.L.C.
6085 Cat Canyon Rd.
Santa Maria, CA 93454

Santa Maria, California
September 23, 2011

Your proposal to convert to injection well "Los Alamos" 22, A.P.I. No. 083-00394,
Section 36 T. 9N, R. 33W, S.B. B. & M., Cat Canyon Field, West Area, Monterey Pool,
Santa Barbara County, dated 4-7-11, received 4-16-11 has been examined in conjunction with records filed in
this office.

CANCELLED 5-15-13

THE PROPOSAL IS APPROVED PROVIDED:

1. Blowout prevention equipment, as defined by this Division's publication No. M07, shall be installed and maintained in operating condition and meet the following minimum requirement: **Class II 2M**, with hydraulic controls, on the **7"** casing.
2. Hole fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
3. This well shall conform to the provisions set forth in our letter dated **October 10, 2008**, approving the project.
4. The maximum allowable surface injection pressure shall not exceed the formation fracture gradient.
5. Injection is through tubing with packer set immediately above the approved zone of injection.
6. No program changes are made without prior Division approval.
7. **THIS DIVISION SHALL BE NOTIFIED TO:**
 - a. **Witness** a pressure test of the **7"** casing.
 - b. **Witness** a mechanical integrity test within three months after injection has commenced.
 - c. **Witness** the step-rate test.

NOTES:

1. Flowlines servicing the well, which have been out of service, must be tested to ensure their integrity.
2. Unlined sumps containing harmful water are not to be located over freshwater bearing aquifers.
3. This permit was held in abeyance pending review of the AOR submitted for this well.
4. Approval to return this well to injection is based upon a review of **25** wells: **16** idle wells, **6** abandoned wells, **2** injecting wells and **1** producing well.
5. A notification letter must be sent to the offset operator, Greka Oil & Gas, Inc., that this well is being converted.

RB:pd

cc: Well file
Santa Barbara County Petroleum
Project File
EPA Binder

Engineer: Jim Carnahan

Phone: (805) 937-7246

Elena M. Miller
State Oil and Gas Supervisor

By Patricia A. Abel
Patricia A. Abel, District Deputy

A copy of this permit and the proposal must be posted at the well site prior to commencing operations. Records for work done under this permit are due within 60 days after the work is completed or the operations have been suspended. Issuance of this permit does not preclude the recipient from the obligation of being in compliance with all applicable Federal, State and Local laws, regulations and ordinances.

4420

RECEIVED

MAY 16 2011

email

DIVISION OF OIL, GAS AND
GEOTHERMAL RESOURCESNATURAL RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

FOR DIVISION USE ONLY

Bond	Forms	
	OGD114	OGD121
Blanket	5/11	5/11

OG

NOTICE OF INTENTION TO REWORK / REDRILL WELLDetailed instructions can be found at: www.conservation.ca.gov/dog/

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to rework ☒ / redrill ☐ well Los Alamos 22, API No. 0408300394, (Check one)

Sec. 36, T. 9N, R. 33W, SB B.&M., Cat Canyon Field, Santa Barbara County.

The complete casing record of the well (present hole), including plugs and perforations, is as follows: (Attach wellbore schematics diagram also.)

11-3/4" 54# Casing at 345'

7" 24# Casing at 5550', slotted from 4920-5550'



CANCELLED

5-15-13

The total depth is: 5550 feet.

The effective depth is: 5550 feet.

Present completion zone(s): Monterey

(Name)

Anticipated completion zone(s): Monterey

(Name)

Present zone pressure: 200 psi.

Anticipated/existing new zone pressure: 200 psi.

Is this a critical well as defined in the California Code of Regulations, Title 14, Section 1720(a) (see next page)? Yes ☐ No ☒

For redrilling or deepening only, is a California Environmental Quality Act (CEQA) document required by a local agency? Yes ☐ No ☐ If yes, see next page.

The proposed work is as follows: (A complete program is preferred and may be attached.)

Convert well to injection into the Monterey Formation (see attachment)

If well is to be redrilled or deepened, show proposed coordinates (from surface location) and true vertical depth at total depth: _____ feet and _____ feet

(Direction)

(Direction)

Estimated true vertical depth: _____

Will the Field and/or Area change? Yes ☐ No ☐ If yes, specify New Field: _____

New Area: _____

The Division must be notified immediately of changes to the proposed operations. Failure to provide a true and accurate representation of the well and proposed operations may cause rescission of the permit.

Name of Operator

ERG Operating Company LLC

Address

6085 Cat Canyon Road

City/State

Santa Maria, CA

Zip Code

93454

Name of Person Filing Notice

Scott Wood

Telephone Number:

805-361-7100

Signature

Scott Wood for Steve Horner

Date

4/7/2011

Individual to contact for technical questions:

Steve Horner

Telephone Number:

805-361-7106

E-Mail Address:

shorner@ergresources.com

This notice and an indemnity or cash bond must be filed, and approval given, before the workover begins. (See the reverse side for bonding information.) If operations have not commenced within one year of the Division's receipt of the notice, this notice will be considered cancelled.

ERG Resources L.L.C.

API. : 040 - 830 - 0394
Well: Los Alamos # 22
Cat Canyon Field
Santa Barbara Co., California
9N, 33W, S36
DF: 1152'

KB: 10'
Completed 7/3/1943
Ran kill string 1/1983

USIT/Bond log

run 2011 :

Parted 1920' ±

Bonding 740-990 ± (?)

" 3390-4100

CANCELLED - 5-15-13

TD: 5550'

CANCELLED 5-15-13

11 3/4" 54# J-55 Set at 345' /
Cemented to surface. 140 sxs top job

Kill string 2 7/8" EUE 8R tbgs, 10 jts.
at 308'

CP at 2820' squeezed with 280 sxs
WSO at 2820' approved by DOG
WSO @ 4870' approved by DOG
Cement 7" thru perms at 4920' with 300 sxs

Slickline tagged fill at 5345' in April 2011

7" Perforated casing from 4920' - 5550'
630' of 180 mesh x 2" slotted 7" liner
18 rows slots with 6" centers

7" 24# H40 Csg set @ 5550'

TOC unknown

BFW 240 1090

S, 2555

Monterey 4380

CP 4920
300 sxs
- 6
294
1.17
394 CF
2.87
987'

4920
987
3933 calc TOC

7" x 10 5/8"

4890
- 3933
447'
cement
over top
Monterey

Pre 1978 well,
so OK.

Conversion to Injection Proposal
Los Alamos 22
API No. 08300394
KB 1152'

History

Los Alamos 22 was drilled to 5550' in 1943 and was completed in the Monterey with a combination string of blank and slotted casing. The top of the Monterey formation is at 4392' MD and the 7" shoe was landed at 5550'. The 7" casing was cemented through cement ports at 2820' and 4920' with 530 sxs of cement. The slotted section is from 4920-5550'. Los Alamos 22 produced a cumulative of 894 MBO and 74 MBW before it was shut-in during 1981. Slickline tagged fill at 5345' in April 2011.

Convert to Injection Program

1. Bleed off any trapped gas, fill tubing with produced water and recover kill string.
2. Run 6-1/8" bit and clean out to 5550'. POH and run 7" scraper to 5550'.
3. Run fullbore packer and bridge plug. Set BP at 4900'. Test 7" casing to 250 psi. If casing does not test, set packer at 4800' and test backside to 250 psi.
4. Run injection packer on 2-7/8" tubing and fill annulus with packer fluid. Set packer at $\pm 4800'$ and pull 10000 # tension. Test casing to 200 psi. Notify DOGGR 48 hrs ahead of test.
5. Install injection tree, pressure test to 2000 psi and rig down.
6. Rig up Halliburton CTU and Cal-Coast acid trucks. Jet wash slots 4920-5550' using 5500 gals 15% HCl and 11000 gals of 12-3 mud acid. Displace with ammonium chloride. SI tubing and squeeze acid into formation.
7. Schedule step rate test and tracer test within 3 months of start of injection.

Los Alamos 22 Conversion to Injection Project

Well	API	T,R,S	TD	Casing Shoe	WSO	Top Mont	Top Perf	Bottom Perf	Dist to Inj
LA22	0408300394	9N, 33W, S36	5550	5550	4870	4392	4920	5550	0
LA8A*	0408300387	9N, 33W, S36	3221	3119	2692	NDE	3066	3221	125
LA8X*	0408300388	9N, 33W, S36	3138	3138	2786	NDE	2817	3112	175
Bell9*	0408301657	9N, 33W, S36	3128	3089	2576	NDE	2801	3089	410
Bell 18	0408301497	9N, 33W, S36	5790	5788	5130	4363	3155	3240	620
LA28	0408300400	9N, 33W, S36	5600	5600	4725	4746	5193	5600	625
LA1	0408300381	8N, 33W, S1	2995	2432	2432	NDE	2715	2920	640
Bell16	0408300682	9N, 33W, S36	5517	5510	4864	4175	4885	5510	650
Bell 8*	0408301490	9N, 33W, S36	2925	2614	2614	NDE	2666	2906	660
LA 29*	0408300401	8N, 33W, S1	5620	4930	4856	4428	4938	5619	780
LA19	0408300349	8N, 33W, S1	5716	4883	None	4362	5106	5712	820
LA20*	0408300350	9N, 33W, S36	5900	5900	5266	4573	5307	5900	980
Bell 96	0408301674	9N, 33W, S36	3270	2709	2709	NDE	2708	3074	990
Bell28	0408301507	9N, 33W, S36	5487	5485	4750	4172	4825	5485	1050
Bell132	0408301572	9N, 33W, S36	3080	2595	2595	NDE	2586	3078	1140
Bell 153	0408301579	9N, 33W, S35	7475	5175	4705	4272	5165	5846	1150
Bell27	0408301506	9N, 33W, S36	5386	4612	3140	4099	2742	3072	1185
LA70	0408300420	8N, 33W, S1	3000	2690	2680	NDE	2659	2994	1190
LA23	0408300395	9N, 33W, S36	5870	5870	5160	5160	5191	5870	1210
LA11	0408300390	8N, 33W, S1	3034	2265	2265	NDE	2580	3013	1210
LA64	0408300419	9N, 33W, S36	5890	5862	4874	4516	4981	5862	1230
Bell 22	0408301501	8N, 33W, S1	5950	5899	5373	4392	5700	5850	1240
Bell 7A	0408321349	8N, 33W, S1	3250	3250	3209	NDE	3140	3175	1250
LA 65*	0408320057	8N, 33W, S1	5866	4384	4368	4430	4398	5864	1300
Bell 17	0408301496	8N, 33W, S2	6008	6008	5339	4496	5377	6008	1360

* Abandoned Wells

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES
REPORT OF PROPERTY AND WELL TRANSFER

Field or county Cal Canyon	District 3 - SANTA MARIA
Former owner Chevron U.S.A. Inc	Opcode: C5640 Date July 19, 2010
Name and location of well(s)	
<u>Sec. 4, T. 8N, R. 32W S.B. B&M</u> "W.P. Hammon Fee B (NCT-2)" 13 (083-00451) <u>Sec. 5, T. 8N, R. 32W S.B. B&M</u> "W.P. Hammon Fee B (NCT-2)" (See attached list) <u>Sec. 6, T. 8N, R. 32W S.B. B&M</u> "Los Alamos" (See attached list) <u>Sec. 7, T. 8N, R. 32W S.B. B&M</u> "Los Alamos" (See attached list) <u>Sec. 18, T. 8N, R. 32W S.B. B&M</u> (field Santa Barbara Co.) "Los Alamos" 200 (083-20412) <u>Sec. 18, T. 9N, R. 32W S.B. B&M</u> "Williams Holding Co." C.H. 1 & C.H. 3 <u>Sec. 30, T. 9N, R. 32W S.B. B&M</u> "Fugler" (See attached list) <u>Sec. 31, T. 9N, R. 32W S.B. B&M</u> "Drumm", "D-WF", Gwinn Fee", "Los Alamos", "Williams Holding", "Williams Recruit" (See attached list)	<u>Sec. 32, T. 9N, R. 32W S.B. B&M</u> "W.P. Hammon Fee B (NCT-1)" 1 & 3 <u>Sec. 1, T. 8N, R. 33W S.B. B&M</u> "Los Alamos" (See attached list) <u>Sec. 12, T. 9N, R. 33W S.B. B&M</u> "G.W.P." (See attached list) <u>Sec. 13, T. 9N, R. 33W S.B. B&M</u> "G.W.P." (See attached list) "Standard" 1 (083-01397) <u>Sec. 23, T. 9N, R. 33W S.B. B&M</u> "G.W.P." (See attached list), "Palmer Stendel" 66-23 (083-01123) <u>Sec. 24, T. 9N, R. 33W S.B. B&M</u> "G.W.P." (See attached list), "GWP-RF", "Palmer Stendel" 1-24 (083-01151), "WH-GWP-RF" 408 (083-20843) <u>Sec. 25, T. 9N, R. 33W S.B. B&M</u> "G.W.P." 367-24 (083-22114)
SEE PAGE 2	

Description of the land upon which the well(s) is (are) located
Cal Canyon Field, Santa Barbara County, CA

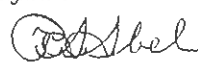
Date of transfer, sale, assignment, conveyance, or exchange 4-29-2010	New Owner ERG Operating Company, LLC.	Operator code E0255	Type of Organization Corporation
	Address 600 Travis, Suite 7050 Houston, TX 77002		Telephone No. (713) 812-1800

Reported by
ERG Operating Company, LLC

Confirmed by **Chevron U.S.A. Inc.**

New operator new status PA	Request Designation of Agent
Old operator new status PA	Remarks Acquiring company has a blanket bond.

Deputy Supervisor
Patricia A. Abel

Signature


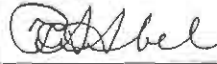
OPERATOR STATUS ABBREVIATIONS

FORM AND RECORD CHECK LIST

PA - Producing Active	Form or record	Initials	Date	Form or record	Initials	Date
NPA - No Potential Active				Map and Book	PA	
PI - Potential Inactive	Form OGD121	CB	7/21/10	Lease Files	CB	7/21/10
NPI - No Potential Inactive	Well records	CB	7/21/10	Well Stat	CB	
Ab - Abandoned or No More Wells	New well cards			District Computer Files	CB	7/21/10
PAA:cb	Bond Status					
cc. ERG Operating Co. LLC	Annual Report	CB	7/21/10			
Chevron U.S.A. Inc						

Santa Barbara County
Cons. Committee - Transfer File - Harold Bertholf - Heien Jan

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES
REPORT OF PROPERTY AND WELL TRANSFER

Field or county Cat Canyon		District: 3 - SANTA MARIA	
Former owner Chevron U.S.A. Inc.		Opcode: C5640	Date: July 19, 2010
Name and location of well(s)			
<p>Sec. 1, T 8N, R. 33W S.B. B&M "Climax" 1 (083-00380) Sec. 25, T 9N, R. 33W S.B. B&M "GWP-RF" (See attached list) "Recruit Fee", "WH-F", "WH-GWP", "WH-RF", "Williams Holding", "Williams Holding Co " 1 (083-00729), "Williams Recruit" 2 & 3 (See attached list) Sec. 36, T 9N, R. 33W S.B. B&M "D-WF" 382 (083-22180), "Los Alamos", "WF-LA" 704-36 (083-21126), "WH-LA" 308 (083-21003) "Williams Fee", "Williams Holding" 368-25 (083-22122)</p> <p>SEE ATTACHED LIST FOR LISTING OF ALL WELLS INCLUDED IN TRANSFER.</p>			
Description of the land upon which the well(s) is (are) located Cat Canyon Field, Santa Barbara County, CA			
Date of transfer, sale, assignment, conveyance, or exchange 4-29-2010	New Owner ERG Operating Company, LLC.	Operator code E0255	Type of Organization Corporation
	Address 600 Travis, Suite 7050 Houston, TX 77002		Telephone No. (713) 812-1800
Reported by ERG Operating Company, LLC.			
Confirmed by Chevron U.S.A. Inc.			
New operator new status PA	Request Designation of Agent		
Old operator new status PA	Remarks Acquiring company has a blanket bond.		
Deputy Supervisor Patricia A. Abel		Signature 	

OPERATOR STATUS ABBREVIATIONS

FORM AND RECORD CHECK LIST

PA - Producing Active	FORM AND RECORD CHECK LIST					
	Form or record	Initials	Date	Form or record	Initials	Date
NPA - No Potential Active						
PI - Potential Inactive	Form OGD121	CB		Map and Book		
NPI - No Potential Inactive	Well records	CB		Lease Files	CB	
Ab - Abandoned or No More Wells	New well cards			Well Stat	CB	
PAA:cb	Bond Status			District Computer Files	CB	
cc. ERG Operating Co. LLC	Annual Report	CB				
Chevron U.S.A. Inc.						

Santa Barbara County
Cons. Committee - Transfer File - Harold Bertholf - Helen Jan

OGD156 (Modified 1/00)

IDLE WELL MONITORING RECORD

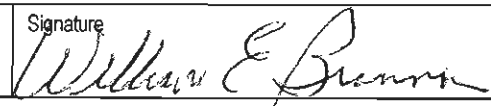
WELL NAME "Los Alamos" 22
BFW 740

WELL TYPE OG

[illegible]

REMARKS:

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES
REPORT OF PROPERTY AND WELL TRANSFER

Field or county See below		District: 3 - SANTA MARIA	
Former owner ChevronTexaco Exploration & Production Company		Opcode:	Date September 23, 2005
Name and location of well(s)			
All Wells			
Description of the land upon which the well(s) is (are) located			
All wells			
Date of transfer, sale, assignment, conveyance, or exchange 7-11-2005	New Owner Chevron U.S.A. Inc.	Operator code C5640	Type of Organization Corp.
	Address PO Box 1392 Bakersfield, CA 93302		Telephone No. (661) 654-7065
Reported by ChevronTexaco Exploration & Production Company			
Confirmed by Chevron U.S.A. Inc.			
New operator new status (status abbreviation) PA	Request Designation of Agent		
Old operator new status (status abbreviation) PA	Remarks THIS IS A NAME CHANGE ONLY Includes abandoned wells		
Deputy Supervisor William E. Brannon		Signature 	

OPERATOR STATUS ABBREVIATIONS

PA - Producing Active	FORM AND RECORD CHECK LIST					
NPA - No Potential Active	Form or record	Initials	Date	Form or record	Initials	Date
PI - Potential Inactive	Form OGD121	W	9/23/05	Map and Book	W	9/23/05
NPI - No Potential Inactive	Well records	W	9/23/05	Lease Files		
Ab - Abandoned or No More Wells	New well cards			Well Stat	W	9/23/05
WEB:hc	Bond Status	W	9/23/05	District Computer Files		
cc: ChevronTexaco E&P Co.						
Chevron U.S.A. Inc.						

Santa Barbara County

Cons. Committee

Harold Bertholf

Transfer File

HQ

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES
REPORT OF PROPERTY AND WELL TRANSFER

Field or county <u>Cal Canyon</u>		District <u>3 - SANTA MARIA</u>	
Former owner <u>Texaco Exploration & Production Inc.</u>		Opcode: <u>T1600</u>	Date <u>November 22, 2002</u>
Name and location of well(s) <u>Sec. 24, T. 9N, R. 33W, SB B&M</u> All wells <u>Sec. 25, T. 9N, R. 33W, SB B&M</u> All Wells <u>Sec. 36, T. 9N, R. 33W, SB B&M</u> All Wells			
Description of the land upon which the well(s) is (are) located			
Date of transfer, sale, assignment, conveyance, or exchange <u>08-22-02</u>	New Owner <u>ChevronTexaco Exploration & Production Company</u>	Operator code <u>C5680</u>	Type of Organization Corp.
	Address <u>5001 California Ave. Bakersfield, CA 93309</u>		Telephone No. <u>(661) 395-6445</u>
Reported by <u>Texaco Exploration & Production Inc.</u>			
Confirmed by <u>ChevronTexaco Exploration & Production Co.</u>			
New operator new status (status abbreviation) PA	Request Designation of Agent		
Old operator new status (status abbreviation) PA	Remarks		
Deputy Supervisor <u>William E. Brannon</u>		Signature <i>William E. Brannon</i>	

OPERATOR STATUS ABBREVIATIONS

	FORM AND RECORD CHECK LIST					
	Form or record	Initials	Date	Form or record	Initials	Date
PA - Producing Active						
NPA - No Potential Active						
PI - Potential Inactive	Form OGD121	DM	2/03	Map and Book	RA	1/03
NPI - No Potential Inactive	Well records	DM	2/03	Lease Files		
Ab - Abandoned or No More Wells	New well cards	DM	2/03	Well Stat	HQ	11/02
WEB:hc	Bond Status	HQ	11/02	District Computer Files		
cc: Cons. Committee						
Harold Berthoff						

Cat Canyon

LOS ALAMOS 22

Getty

West side
Miocene

36-9N-33W

Cyclic

West

July '64

9013

Apr. '65

6000

May '65

3600

DIVISION OF OIL AND GAS

WELL SUMMARY REPORT

DIVISION OF OIL & GAS
RECEIVED

JUL 15 1943

SANTA MARIA, CALIFORNIA

Operator PACIFIC WESTERN OIL CORPORATION Field CAT CANYON FIELD

Well No. LOS ALAMOS No. 22 Sec. 36, T. 9N, R. 33W, S.B. B. & M.

Location 4805' Southerly along West Prop. Line
from NW cor. & 335' Easterly at Elevation of derrick floor XXXXXX above sea level 1157.87 feet.
Right angles

In compliance with the provisions of Chapter 93, Statutes of 1939, the information given herewith is a complete and correct record of the present condition of the well and all work done thereon, so far as can be determined from all available records.

Date July 13, 1943

Signed W. N. Craddock
Title Chief Engineer
(President, Secretary or Agent)

(Engineer or Geologist)

(Superintendent)

Commenced drilling 5-20-43 Completed drilling 7-3-43 Drilling tools XXXX
Rotary

Total depth 5550 Plugged depth _____ GEOLOGICAL MARKERS DEPTH

Junk _____

Commenced producing 7-4-43 (date) Flowing XXXX/XXXXXX
(cross out unnecessary words)

Initial production
Production after 10 days

Clean Oil bbl. per day	Gravity Clean Oil	Per Cent Water including emulsion	Gas Mcf. per day	Tubing Pressure	Casing Pressure
1368	19°	1%	205	175#	500#
600	19°	0.2%	90	190#	600#

CASING RECORD (Present Hole)

Size of Casing (A. P. I.)	Depth of Shoe	Top of Casing	Weight of Casing	New or Second Hand	Seamless or Lapweld	Grade of Casing	Size of Hole Casing landed in	Number of Sacks of Cement	Depth of Cementing if through perforations
11-3/4"	345'		54#	New	S.J.	J-55	15 1/2"	300	
7"			24#	New	Elec. Weld	H-40	10-5/8"	300	4920
				Note:	7" also	C.P. at		200	2820

PERFORATIONS

Size of Casing	From	To	Size of Perforations	Number of Rows	Distance Between Centers	Method of Perforations
7"	4920 ft.	5550 ft.	180 Mesh x 2"	16	6"	Straight Slot
	ft.	ft.				
	ft.	ft.				
	ft.	ft.				
	ft.	ft.				

Model 100F Casing 120 Casing 121 From 7-15-43 To 7-15-43

Electrical Log Depths 350 - 5550

(Attach Copy of Log)

SUBMIT IN DUPLICATE
STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

DIVISION OF OIL & GAS
RECEIVED
JUL 15 1943
SANTA MARIA, CALIFORNIA

History of Oil or Gas Well

OPERATOR PACIFIC WESTERN OIL CORPORATION CAT CANYON

Well No. "LOS ALAMOS" No. 22, Sec. 36, T. 9N, R. 33W, S.B. B. & M.

Signed W. N. Craddock

Date July 12, 1943

Title Chief Engineer

(President, Secretary or Agent)

Use this form in reporting all important operations at the well, together with the dates thereof, in the order of their performance. Such operations include drilling, re-drilling, deepening, plugging, or altering casing as by perforating, shooting, or pulling. Include in your report size of hole drilled, re-drilled, or deepened; size, weight and length of casing landed, cemented, or removed, amount and location of perforations; number of sacks of cement used in cementing or plugging operations, number of feet of cement drilled out of casing, location of top and bottom of cement plugs. If the well was dynamited, give date, dimensions and weight of all shots. If tests were made give interval tested and results of tests, such as, amount and nature of fluids recovered.

Date	
5-20	Spudded 15 $\frac{1}{2}$ " rotary hole
5-21	Drilled 15 $\frac{1}{2}$ " hole to 345'. Cemented 11-3/4" casing at 345' with 300 sacks cement
5-23	Found top of cement at 330'. Drilling 10-5/8" hole.
6-25	Drilled 10-5/8" hole to 5550, Total Depth.
6-26	Ran Lane Wells Electrolog to 5550'. Landed 7" casing at 5550, including 630' of 180 mesh perforated from 4920 to 5550. Cemented 7" thru perforations at 4920 with 300 sacks of cement and at 2820' with 200 sacks of cement.
6-28	Drilled out cement from 2805 to 2821. <i>4cf</i>
6-29	Ran Johnston Tester - found sleeve wet at 2820. Fluid rose 428 in drill pipe during 45 minute test. Squeezed away 39 sacks of cement through retainer set at 2805.
6-30	Drilled out cement from 2786 to 2830. <i>tested ok</i>
7-1	Ran Johnston tester with packer at 2803. W.S.O. witnessed and approved by Division Oil & Gas. Cleaned out to 4910'
7-3	Gun perforated 4 one-half inch holes at 4870. Ran Johnston Formation Tester with packers at 4880 and 4862. W.S. O. witnessed and approved by Divn. Oil & Gas. Displaced mud with water.
7-4	Swabbed well in at 9:30 A.M.
7-5	24 hour test 1368 Barrels net, 19 ⁰ grav. 1% cut - Open bean, 175# Tubing pressure, 500# Casing Pressure, 205 MCF Gas.

File #	Model	Class	Index	Perforations
#2				29 381
7-17-43		1006		7-15-43 7-15-43

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

DIVISION OF OIL & GAS
RECEIVED

JUL 15 1943

SANTA MARIA, CALIFORNIA

LOG AND CORE RECORD OF OIL OR GAS WELL

Operator PACIFIC WESTERN OIL CORPORATION Field CAT CANYON

Well No. "LOS ALAMOS" No. 22 Sec. 36, T. 9N, R. 33W, S.B. B. & M.

FORMATIONS PENETRATED BY WELL

DEPTH TO		Thickness	Drilled or Cored	Recovery	DESCRIPTION
Top of Formation	Bottom of Formation				
0	345				Sand & Gravel
345	387				Sand
387	938				Sand & Shale
938	1249				Shale
1249	1440				Sand & Shale
1440	1713				Shale
1713	1883				Sand & Shale
1883	1912				Shale
1912	2220				Sand & Shale
2220	2373				Shale
2373	2582				Shale & Sand
2582	2762				Shale
2762	2924				Shale & Sand
2924	3120				Sand & Shale
3120	3604				Shale
3604	3698				Shale & Sand
3698	4257				Shale
4257	5062				Brown Shale
50 62	5073				Hard Shale
5073	5550				Chert

#2
mapd.
7-17-43

1508.

27	121
7-15-43	7-16-43

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Test of Water Shut-off
(FORMATION TESTER)

No. T 3-2130

Santa Maria

Calif. July 6,

19 43

Mr. Allen A. Anderson

Goleta,

Calif.

Agent for Pacific Western Oil Corporation

DEAR SIR:

Your well No. "Los Alamos" 22, Sec. 36, T. 9 N., R. 33 W., S.B. B. & M.
Cat Canyon Field, in Santa Barbara County, was tested for water shut-off
on July 3, 19 43. Mr. S. G. Dolman, designated by the supervisor,
was present as prescribed in Sec. 3222 and 3223, Ch. 93, Stat. 1939; there were also present W. L. Craddock,
engineer, and T. D. Parnell, driller.

Shut-off data: 7 in. 24 lb. casing was cemented at 4920 ft. on June 27, 19 43
in 10 5/8" rotary hole with 300 sacks of cement of which 6 sacks was left in casing.
Casing record of well: 11 3/4" cas. 350'; 7" landed at 5550' with 630' of perforation on
bottom and c.p. as above and at 2820'.

Reported total depth 5550 ft. Bridged with cement from 4880 ft. to 4886 ft. Cleaned out to 4880 ft. for this test.
A pressure of 1000 lb. was applied to the inside of casing for 10 min. without loss after cleaning out to 4880 ft.
A Johnston tester was run into the hole on 2 1/2 in. drill pipe, with -- ft. of water cushion,
and packer set at 4862 ft. with tailpiece to 4886 ft. Tester valve, with 1/2" bean, was opened at 9:47 a.m.
and remained open for hr. and 30 min. During this interval there was a steady blow and gas
appeared at the surface in 2 minutes.

MR. CRADDOCK REPORTED THE FOLLOWING:

1. The 7" casing was gun perforated at 4869'-4871' with four 1/2-inch holes at right angles for a test of shut-off.
2. The space between the 2 1/2" drill pipe and the 7" casing was filled with mud fluid and remained in that condition during the test, demonstrating that the packer prevented any migration of fluid between drill pipe and casing.
3. The 7" casing was also cemented at 2820' through a cementing sleeve with 200 sacks of cement and recemented with 60 sacks of which 40 sacks were put behind the casing. The shut-off at 2820' was demonstrated to be effective.
4. When the casing was cleaned out the cement plug and baffle plate were drilled out by mistake, necessitating the use of a double packer in making a test of shut-off.

THE DEPUTY SUPERVISOR NOTED THE FOLLOWING:

1. When the drill pipe was pulled out, approximately 2330' of fluid was found in the drill pipe, equivalent to 13.8 bbl.
2. The fluid consisted of gas-cut mud and oil. Water filtered from the fluid tasted fresh.
3. The pressure chart indicated that the valve was open during the entire test.
4. The bottom hole temperature was 150 degrees.

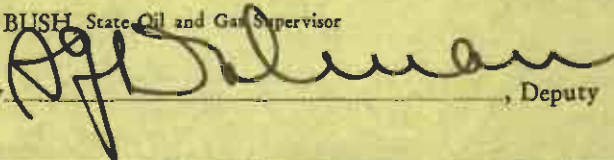
THE SHUT-OFF IS APPROVED.

CC - Mr. W. L. Craddock

3120 7-41 12,500 STATE PRINTING OFFICE	CC - Mr. W. L. Craddock	3120 7-41 12,500 STATE PRINTING OFFICE
---	-------------------------	---

R. D. BLISH, State Oil and Gas Supervisor

By



Deputy

Added 5-20-43
Test 5-21-43
Cemented 5-21-43

502-3

CC - NTY OF SANTA BARBARA

STATE OF CALIFORNIA

Special Report on Oil Operations Witnessed
SURFACE CEMENTING

No. 372

Santa Maria, Calif., May 24, 1943

Mr. Allen A. Anderson

Goleta, California

Agent for Pacific Western Oil Corporation

DIVISION OF OIL & GAS
RECEIVED
MAY 29 1943

SANTA MARIA, CALIFORNIA

Dear Sir:

Operations at your well No. Los Alamos #22 Sec. 36 T. 9 N. R. 53 W. S.B. B. & M.

Cat Canyon Oil Field, in Santa Barbara County, were witnessed by

F. H. Johnson, representative of the County,

on May 21, 1943. There was also present Hugh Smith, Drilling Superintendent
and Thos. Knudsen, Drilling Foreman for Pacific Western Oil Corporation.

Casing Record Set and cemented 350' of 11-3/4" O.D. 54 lb. new welded
joint casing (3 joints).

The operations were performed for the purpose of Setting and cementing surface casing.

and the data and conclusions are as follows:

1. 1:15 P.M. started running casing. Casing ran freely to 240' level, then forced to 285' level. 3:45 P.M. started circulation in an endeavor to free pipe. Not effective. 4:00 P.M. started to pull casing. Reamed hole from 5:00 P.M. to 7:20 P.M. 7:30 P.M. started to replace casing - finished 8:30 P.M.
2. Water not circulated.
3. 8:25 P.M. to 8:40 P.M. 300 sax of cement were pumped into casing by Halliburton Cementing Company.
4. 8:45 P.M. to 8:54 P.M. cement was displaced with 210 cu. ft. of mud fluid leaving 20' of cement in bottom of casing. No return of cement.
5. 2:00 A.M. (5-22-43) top of cement was located at 40' from bottom of cellar.
6. 40 sax more of cement were pumped in from the top thru a 2" line from 2:15 A.M. to 2:20 A.M. bringing cement to surface.

Oral approval of cementing procedure is hereby confirmed.

SANTA BARBARA COUNTY PLANNING COMMISSION

WALLACE C. PENTFIELD, Secretary

By

F. H. Johnson Inspector.

5

COUNTY OF SANTA BARBARA

STATE OF CALIFORNIA

Special Report on Oil Operations Witnessed

MUD TEST

No. 372

Santa Maria,

Calif., May 24, 1943

Mr. Allen A. Anderson

Goleta,

California

DIVISION OF OIL & GAS

RECEIVED

MAY 29 1943

Agent for Pacific Western Oil Corporation

SANTA MARIA, CALIFORNIA

Dear Sir:

Operations at your well No. Los Alamos #22 Sec. 36, T. 9 N., R. 33 W. S.B. B. & M.

Cat Canyon Oil

Field, in Santa Barbara

County, were witnessed by

C. E. Winter and F. H. Johnson

, representative of the County,

on May 21, 1943. There was also present Hugh Smith, Drilling Superintendent
and Thos. Knudsen, Drilling Foreman for Pacific Western Oil Corporation.

Casing Record None set prior to mud test.

The operations were performed for the purpose of Demonstrating that the formation was
satisfactorily mudded from 0' to 345'.

and the data and conclusions are as follows:

Mr. Knudsen reported a 15 1/2" rotary hole drilled 345' below the
derrick floor.

The Inspectors noted:

1. Mud weight was 88# per cu. ft.
2. 11:55 A.M. mud test was taken for half hour and showed mud loss of less than 2 bbls. per hour.

Oral approval given to set and cement 345' of 11-3/4" O.D. 54 lb. casing is hereby confirmed.

SANTA BARBARA COUNTY PLANNING COMMISSION

WALLACE C. PENFIELD, Secretary,

By [Signature] Inspector.

COUNTY OF SANTA BARBARA
STATE OF CALIFORNIA
PERMIT FOR DRILLING OIL WELL

DIVISION OF OIL & GAS
RECEIVED
MAY - 8 1943

SANTA MARIA, CALIFORNIA

Mr. Allen A. Anderson,

Permit No. 372

Goleta, California

Date May 7th, 1943

Agent for Pacific Western Oil Corporation

In compliance with your request of May 3rd, 1943
and subject to all the terms and restrictions written below or printed as general provisions
of any part of this form,

PERMISSION IS HEREBY GRANTED TO drill Well No. "Los Alamos" 22

S. 36 T. 2 N. R. 33 W., S.B. B. & M. Cat Canyon Field.

DECISION:

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Mud fluid of not less than 70 lbs. per cu. ft. shall be used in the drilling of the well and the column of mud fluid shall be maintained at all times to the surface, particularly while pulling the drill pipe. Mud weight shall be between 70 and 80 lbs. per cu. ft. when making mud test.
2. Adequate blow-out prevention equipment shall be provided and ready for operation at all times.
3. The formations to be left back of the 11-3/4" casing shall be mudded by open circulation until the loss is not more than 2 bbls. per hour.
4. Not less than 300 ft. of 11-3/4" casing shall be set.
5. Sufficient cement shall be used to fill back of the 11-3/4" casing to cause a full return of cement slurry to the surface at one operation.
6. AN AUTHORIZED REPRESENTATIVE OF THE PLANNING COMMISSION SHALL BE NOTIFIED TO WITNESS:
 - (a) Final mudding operations before cementing the 11-3/4" casing.
 - (b) The depth at which the 11-3/4" casing is landed and the cementing operation.These operations shall be done only when a Representative of the Planning Commission is present.
7. The issuance of this permit is subject to the general conditions and provisions printed on the opposite side of this form.

Secretary, County Planning Commission.

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

Report on Proposed Operations

No. P 3-3201

Santa Maria,

Calif.

May 5,

19 43

Mr. Allen A. Anderson,

Goleta,

Calif.

Agent for Pacific Western Oil Corporation

DEAR SIR:

Your _____ proposal to drill Well No. "Los Alamos" 22,
Section 36, T. 9 N., R. 33 W., S.B. B. & M., Cat Canyon Field, Santa Barbara County,
dated May 2, 19 43, received May 5, 19 43, has been examined in conjunction with records filed in this office.

Present conditions as shown by the records and the proposal are as follows:

THE NOTICE STATES:

"The elevation of the ground above sea level is 1140 feet.

The well is 4805 feet Southerly Along West Property Line from NW Cor. Los Alamos Ranch. and 335 feet Easterly at Right Angles from West Ranch Line.

Lease consists of 4000 Acres

We estimate that the first productive oil or gas sand should be encountered at a depth of about 4950 feet.

Well is to be drilled with rotary tools."

PROPOSAL:

"We propose to use the following strings of casing, either cementing or landing them as herein indicated:

Size of Csg., In.	Weight, Lb. Per Foot	Grade and Type	Depth	Landed or Cemented
11-3/4"	54#	Slip Joint	300	Cemented
7"	24#	H 40	4950	Cemented
5"	Liner		5600	Landed

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing."

DECISION:

THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Mud fluid of not less than 70 lb. per cubic foot shall be used in the drilling of the well and the column of mud fluid shall be maintained at all times to the surface, particularly while pulling the drill pipe.
2. Adequate blow-out prevention equipment shall be provided and ready for operation at all times.
3. The formations to be left back of the 11-3/4" and 7" casings shall be mudded in a satisfactory manner.
4. A cementing sleeve shall be placed in the 7" casing above the Sisquoc oil zone and enough cement forced through the cement ports to reach at least 300' above the Sisquoc oil zone.
5. THIS DIVISION SHALL BE NOTIFIED TO WITNESS:
A test of the 7" shut-off.

Bond No. 4617576

R. D. BUSH

State Oil and Gas Supervisor

By _____

Deputy

CC - Mr. W. N. Craddock

State	Mr. W. N. Craddock	115	121
Mr. Harry Neel			
PAW, Los Angeles			
150a			

DIVISION OF OIL AND GAS

DIVISION OF OIL & GAS
RECEIVED
MAY - 5 1943
SANTA MARIA, CALIFORNIA

Notice of Intention to Drill New Well

This notice must be given and surety bond filed before drilling begins

093-00394

Los Angeles, Calif. May 2, 1943

DIVISION OF OIL AND GAS

Santa Maria, Calif.

In compliance with Section 3203, Chapter 93, Statutes of 1939, notice is hereby given that it is our intention to commence the work of drilling well No. "Los Alamos" #22, Sec. 36, T. 9N, R. 33W, SB B. & M., Cat Canyon Field, Santa Barbara County.

Lease consists of 4000 Acres
Southerly Along West Property Line from NW Cor. Los Alamos Ranch.
The well is 4805 feet N/67S/ and 335 feet E/67W/ from Easterly at Right Angles from
(Give location in distance from section corners or other corners of legal subdivision) West Ranch Line.

The elevation of the ~~depth~~ 1140 above sea level is 1140 feet.
1157

We estimate that the first productive oil or gas sand should be encountered at a depth of about 4950 feet.

We propose to use the following strings of casing, either cementing or landing them as herein indicated:

Size of Casing, Inches	Weight, Lb. Per Foot	Grade and Type	Depth	Landed or Cemented
11-3/4"	54#	Slip Joint	300	Cemented
7"	24#	H 40	4950	Cemented
5"	Liner		5600	Landed

Well is to be drilled with rotary ~~cable~~ tools.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

Address 1060 Subway Terminal Building,
Los Angeles, California.

Telephone number MU-3271

PACIFIC WESTERN OIL CORPORATION

(Name of Operator)

By [Signature]
Vice President

ADDRESS NOTICE TO DIVISION OF OIL AND GAS IN DISTRICT WHERE WELL IS LOCATED

Map	Model	Cover	Cover	Filing	
442		1500		114	321
6-8-43				5-15-43	5-15-43